

1 UNITED STATES DISTRICT COURT
2 EASTERN DISTRICT OF MICHIGAN
3 SOUTHERN DIVISION
4

5 In re FLINT WATER CASES

6 Civil Action No.
7 5:16-cv-10444-JEL-MKM
8 _____ (consolidated)
9

10 Elnora Carthan, et al.,

11 v.

12 Governor Rick Snyder et al. Civil Action No.
13 _____ 5:16-cv-10444-JEL-MKM
14

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17 HIGHLY CONFIDENTIAL

18 VIDEOTAPED DEPOSITION OF GARY M. CRAKES, Ph.D.

19 Taken via Zoom, Monday, November 16, 2020, at 9:09 a.m.
20

21

22

23 REPORTED BY: TRISHA CAMERON, RDR, RMR, CRR, RPR, CSR
24

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20

21 ALSO PRESENT: Nancy Segreve; Malcolm Cohen;

22 Rob Martignetti, videographer.

23

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1 Monday, November 16, 2020

2 At 9:09 a.m.

3 * * *

4 VIDEOGRAPHER: We are now on the
5 record. My name is Robert Martignetti. I
6 am a videographer for Golkow Litigation
7 Services. Today's date is November 16th,
8 2020, and the time is 9:09 a.m.

9 This remote video deposition is being
10 held In Re: Flint Water Cases. The
11 deponent is Gary Crakes, Ph.D.

12 All parties for this deposition are
13 appearing remotely and have agreed to the
14 witness being sworn in remotely. Due to
15 the nature of remote reporting, please
16 pause briefly before speaking to ensure
17 all parties are heard completely. Counsel
18 will be noted on the stenographic record.

19 The court reporter is Trisha Cameron
20 and will now swear in the witness.

21 * * *

22 GARY M. CRAKES, Ph.D.,
23 having been first duly sworn,
24 was examined and testified as follows:

1

* * *

2

EXAMINATION

3 BY MS. DEVINE:

4 Q. Good morning, Dr. Crakes.

5 A. Good morning.

6 Q. My name is Alaina Devine and I represent the three
7 Veolia North America defendants in this case and I'm
8 going to lead off questioning of you today. Okay?

9 A. That's fine.

10 Q. I've seen from your CV and prior list of testimony
11 that you have given a few depositions over the last
12 couple of months. Were those over Zoom?

13 A. Yes. I think one of them was on Ring Central. The
14 rest were via Zoom.

15 Q. Okay. So you're obviously familiar with being
16 deposed and it sounds like familiar with the Zoom
17 technology. But the same basic ground rules apply,
18 that being that you have to give a verbal response to
19 each of the questions that I ask you and that you
20 should pause in between my question and your answer
21 to allow for any delays in technology or for counsel
22 to object. Okay?

23 A. That's fine.

24 Q. Okay. And same rules as prior depositions. If you

1 don't understand a question I'm asking or it can be
2 clarified, please let me know. I'd be happy to do
3 that.

4 A. Thank you.

5 MR. STERN: Hey, Alaina?

6 MS. DEVINE: Yep.

7 MR. STERN: Alaina, before you get
8 started, can I just ask, I'm looking at
9 the participant list. I'm sure -- I don't
10 know who they are. But there's somebody
11 named Nancy and someone named Malcolm
12 Cohen, who I've never seen before. Do you
13 know who those people are?

14 MS. DEVINE: Yeah. They're both
15 consultants that work for VNA.

16 MR. STERN: Okay. Thanks.

17 BY MS. DEVINE:

18 Q. Dr. Crakes, could you please state your full name for
19 the record.

20 A. Yes. Gary M. Crakes.

21 Q. And are you appearing today pursuant to a deposition
22 notice issued in the In Re: Flint Water Cases?

23 A. Yes.

24 Q. Okay. I'm going to share my screen real quick. I'm

1 going to mark first for you Exhibit 1, which is your
2 CV.

3 (Exhibit No. 1 marked.)

4 BY MS. DEVINE:

5 Q. Can you see that on the screen there?

6 A. Yes, I can.

7 Q. Okay. Can you describe for us briefly your
8 educational background.

9 A. As my CV indicates, I received a bachelor's degree in
10 economics from Central Connecticut State College in
11 1975, a master's degree in economics from the
12 University of Connecticut in 1976, and a Ph.D. in
13 economics from the University of Connecticut in 1984.

14 Q. What is your current job or occupation?

15 A. I'm a professor emeritus at Southern Connecticut
16 State University where I continue to teach one course
17 on a part-time basis, and the remainder of my
18 employment activities involves performing appraisals
19 of economic loss for matters in litigation.

20 Q. Was there a period of time where you were employed as
21 a full-time professor at the University of
22 Connecticut?

23 A. Not at the University of Connecticut. It's Southern
24 Connecticut State University.

1 Q. Okay.

2 A. I was a full-time faculty member there from 1980
3 until 2011.

4 Q. Can you describe for us briefly the amount of time
5 that your current role as a professor emeritus takes
6 up?

7 A. The majority of my time, vast majority is related to
8 my consulting activities. The class that I teach,
9 normally a large lecture hall class, of course
10 everything is online now, probably is 10 to 15 hours
11 per week.

12 Q. And what is that class?

13 A. Principles of macroeconomics.

14 Q. What percentage would you assign to the amount of
15 time that you take doing litigation verse -- excuse
16 me, doing litigation work versus as professor
17 emeritus?

18 A. I would approximate that at this point, 80 to 90
19 percent of my time is for my consulting activities.

20 Q. Okay. How many hours per week do you work as a
21 consultant?

22 A. I would approximate, for my consulting activities,
23 perhaps 40, 40 to 50 hours per week. The balance
24 would be for my class that I teach.

1 Q. And the consultant work that you do, is that directly
2 related to litigation primarily?

3 A. Yes. I believe occasionally there's a matter that is
4 not in suit, but --

5 THE REPORTER: I'm sorry, excuse me.
6 Can you repeat that, please.

7 THE WITNESS: Yes. Occasionally
8 there are matters that are not yet in suit
9 where I am retained to perform an
10 analysis. But generally, I believe the
11 ultimate objective would be for suit to be
12 filed and litigation to commence.

13 BY MS. DEVINE:

14 Q. In your CV here, there's a list of publications.
15 Have you contributed to any publications since 2007?

16 A. No, I've not.

17 Q. Okay. And are you a member of any professional
18 associations related to economics?

19 A. Yes. I believe they're on the first page of my CV.
20 There's a list of those organizations.

21 Q. Okay. And are you a member of the National
22 Association of Forensic Economics?

23 A. Yes.

24 Q. Okay. And how long have you been a member of that

1 association for?

2 A. I believe I'm a charter member from the first year of
3 its inception, which I don't, as I sit here, recall
4 the exact year.

5 Q. Have you ever held any leadership positions with that
6 organization?

7 A. No, I've not.

8 Q. Have you ever contributed to any publications on
9 behalf of that organization?

10 A. I had attended some of their conferences in the past.
11 I have served as a reviewer of some articles that
12 have been submitted for publication, but I have held
13 no positions in the organizational structure.

14 Q. Do you subscribe to the Journal of Forensic
15 Economics?

16 A. Yes, I do.

17 Q. Okay. And are there any other methods that I haven't
18 just gone over with you in which you keep up with the
19 research in your field?

20 A. Well, other than my activities performing appraisals
21 of economic loss and the National Association of
22 Forensic Economics, I'm also a member of the American
23 Academy of Economic and Financial Experts. But those
24 would be the two organizations that I have membership

1 in.

2 Q. Okay. And is there anything that you're in the
3 process of publishing or preparing that is not on
4 your CV but that you're currently working on?

5 A. No.

6 Q. As far as the consulting work that you do, what
7 percentage of that work is for the plaintiffs?

8 A. I would approximate that over time, 75 to 80 percent
9 of the analyses I perform are for attorneys
10 representing plaintiffs. The balance would be for
11 attorneys representing defendants.

12 Q. And does the litigation work that you do primarily
13 take place in the personal injury context?

14 A. Personal injury, wrongful death, employment
15 litigation. Occasionally, very rarely, a divorce
16 case.

17 Q. You had indicated that 75 to 80 percent of your work
18 was for plaintiffs. When's the -- or what's the last
19 defense work that you -- defense case that you worked
20 on?

21 A. I would say sometime within the last couple of
22 months.

23 Q. How many evaluations, like the ones that you
24 completed in this case, do you complete a year, would

1 you say?

2 A. I'd approximate somewhere in the range of 120 to 125
3 per year.

4 Q. Do you know how many, since you began writing such
5 evaluations, you've completed in your career?

6 A. Over the last 39-plus years, I would approximate
7 somewhere between -- again, it's an approximation --
8 3,300 to 3,500.

9 Q. In the cases in which you give deposition testimony,
10 like you are today, or testimony at trial, can you
11 approximate how many of those cases are for the
12 plaintiffs?

13 A. Well, for cases in which I have provided testimony,
14 deposition or trial, only a handful have been for
15 those representing defendants.

16 Q. Okay. Can you assign any percentage to that, as you
17 sit here today?

18 A. If I had to, I would say certainly something in
19 excess of 90 percent, 95 percent have been -- of my
20 appearances at trial or deposition, have been cases
21 where I've been retained by attorneys representing
22 the plaintiffs.

23 Q. I want to talk a little bit about the types of cases
24 that you generally handle. Can you describe for us

1 the percentage of cases in which you -- it involves
2 an adult plaintiff versus a child plaintiff, somebody
3 over the age of 18?

4 A. I really don't know that breakdown.

5 Q. Okay. Have you had some experience in handling
6 asbestos adult cases in your career?

7 A. Well, if I understand the question correctly, cases
8 involving individuals who have had mesothelioma, yes,
9 I have been involved in cases of that sort.

10 Q. Can you assign any percentage of the type of work
11 that you've done specific to that type of a case?

12 A. I really don't know the percentage breakdown on that
13 basis.

14 Q. Similarly, can you provide an estimate of the number
15 of child plaintiff cases that you consulted on?

16 A. Again, I have no idea of the percentage breakdown on
17 that basis.

18 Q. Do you know how many prior lead injury type cases
19 you've consulted on, either adult or child plaintiff?

20 A. Again, I just don't know. I've had a number of cases
21 of that sort. I just don't know the breakdown.

22 Q. Okay. Could you approximate about how many cases in
23 your career you've worked on that involve lead
24 injuries?

1 A. If I had to approximate, I would say somewhere in the
2 neighborhood of 100. I don't know, though. Again,
3 that's just an approximation.

4 Q. Okay. Are you an expert in reviewing or evaluating
5 lead injuries and the effects it has on a minor
6 plaintiff?

7 A. No.

8 Q. And are you offering any opinions about that today?

9 A. No.

10 Q. I'm going to pull up the deposition notice here. I'm
11 going to scroll through it. This will be Exhibit 2.

12 (Exhibit No. 2 marked.)

13 BY MS. DEVINE:

14 Q. Have you seen this deposition notice before appearing
15 today?

16 A. Yes, I have.

17 Q. Okay. And it looks to me like you just maybe pulled
18 a file folder or something in front of you, or maybe
19 I didn't see that correctly. Do you have a file in
20 front of you today, Dr. Crakes?

21 A. I have four files for the cases that are being
22 reviewed today, and what I just reached to pull and
23 put in front of me was the deposition notice.

24 Q. Okay. If you review this notice pursuant to which

1 you're appearing here today, did you have a chance to
2 review the Schedule A that was attached to it?

3 A. Yes.

4 Q. Okay. And you understand that within these requests,
5 it asks you to produce a copy of your file, correct?

6 A. Yes.

7 Q. Okay. And it also asks you to produce any facts or
8 data that you used to form opinions that you've
9 reached in this case, correct?

10 A. Yes.

11 Q. Okay. And upon receiving this deposition notice, or
12 perhaps in advance of receiving it, did you provide
13 all of those materials to your counsel?

14 A. Well, to clarify, Attorney Stern is not my counsel.
15 Clarification on that point. And did I provide
16 materials to them pursuant to your request? Yes, I
17 did.

18 Q. Okay. Thank you. You, in your work as a litigation
19 consultant, do you have a firm or a shop that you
20 operate out of?

21 A. It's a sole proprietorship doing business as Maher,
22 M-a-h-e-r, Crakes and Associates.

23 Q. Okay. And what type of work does Maher Crakes and
24 Associates do?

1 A. As we were discussing earlier, performing appraisals
2 of economic loss for matters in litigation.

3 Q. And are there any other employees at that firm?

4 A. I have a few individuals who will provide me with
5 assistance in some matters. All of the calculations
6 of these cases were my own. My wife does provide
7 some administrative and clerical assistance.

8 Q. Okay. And did that occur in this case? Were you the
9 only person making these calculations and writing
10 these reports?

11 A. Yes.

12 Q. And let me pull up another exhibit here. This will
13 be Exhibit 3.

14 (Exhibit No. 3 marked.)

15 BY MS. DEVINE:

16 Q. This was a document that was provided to us with your
17 file materials, and it's titled Appraisals of
18 Economic Loss. Do you see that at the top there?

19 A. Yes, I do.

20 Q. Okay. This was provided to us with a list of your
21 prior appearances, here beginning on page 2. Do you
22 see that?

23 A. Yes, I do. And I do want to indicate that a few days
24 ago, the end of last week, I did provide an update to

1 that list to Attorney Stern's office.

2 Q. Okay. Is this the updated list or is this the
3 initial list that was provided?

4 A. That's the initial list that was provided. There's a
5 one-page update showing any appearances that I've had
6 at depositions or trials since June 30th of 2020.

7 Q. Okay. So there have -- can you explain for us here
8 on the record what that update was?

9 A. Yes. As I think you were inquiring earlier, I've had
10 a number of depositions via Zoom or some other
11 provider. And I did have one trial appearance, or I
12 should say a bench trial in federal court in
13 Bridgeport, where I did physically appear at trial,
14 and those are on the updated list.

15 Q. Okay. I see here on your list of prior testimony
16 that primarily your work is done in the state of
17 Connecticut. Is that correct?

18 A. Yes. The majority would be in the state of
19 Connecticut. That's correct.

20 Q. Okay. Have you ever been qualified as an expert to
21 give appraisals of economic loss anywhere other than
22 New York or Connecticut?

23 A. Well, again, if I'm understanding your question
24 correctly, have I provided testimony in states other

1 than Connecticut and New York? Yes, I have.

2 Q. Okay. And what states are those?

3 A. It would include New Hampshire, Vermont, Rhode

4 Island, Massachusetts, New Jersey, Illinois, Florida,

5 the District of Columbia, Puerto Rico, Georgia.

6 Those are the states that are coming to mind as I sit

7 here.

8 Q. Have you ever provided a report like you did in this

9 case or given testimony, either by deposition or at

10 trial, in the state of Michigan?

11 A. Not that I recall.

12 Q. Can you state that again? I'm sorry. You broke up a

13 little.

14 A. Yes. I said not that I recall.

15 Q. Thank you. Have you ever, to your knowledge, been

16 excluded from testifying in any cases in whole or in

17 part?

18 A. I'm not aware of any exclusions in whole. There have

19 been some cases where my trial testimony, my

20 appearance at trial was restricted and some values

21 were not permitted to be described.

22 Q. Can you describe for us, generally, the circumstances

23 that you recall that occurring in?

24 A. In the state of Connecticut, there often is a value

1 that one estimates in the economic analyses, the
2 value of household services. In the state of
3 Connecticut, it seems to depend upon the
4 interpretation of the court in each particular case.
5 So in some cases where I have estimated a value for
6 the loss of household services and the judge has
7 indicated that it's not going to be something that
8 can be described to the jury, my testimony has not
9 been permitted on that basis.

10 There was also a case in US District Court
11 in Connecticut where there had been a value included
12 for an executive associated with stock options, and
13 the court in that case ruled that the testimony on
14 stock options would not be allowed. Those are the
15 only ones I know of.

16 Q. Okay. Are you aware of any specific motions, other
17 than those that you just stated on the record for us,
18 to exclude your testimony?

19 A. Well, there may be motions of that sort. Often I'm
20 not informed about them and any discussion of that
21 occurs typically before I appear at trial, but there
22 may be.

23 Q. When were you first retained in this case?

24 A. The first contact I had concerning this matter, I

1 believe, was sometime perhaps in April or May of this
2 year.

3 Q. And who contacted you?

4 A. Attorney Stern's office.

5 Q. Have you ever consulted for Attorney Stern's firm
6 before?

7 A. Yes, I have.

8 Q. Okay. And are you -- how many cases would you say
9 you've had with Attorney Stern in the past?

10 A. Once -- well, with Attorney Stern --

11 Q. We'll start with Attorney Stern, and then we can ask
12 about the firm after that.

13 A. A general idea about the firm. I don't really
14 have -- I haven't really thought about how many cases
15 for Mr. Stern.

16 Q. Okay. And how many for the firm are you able to
17 recall?

18 A. Over the last 39 years for Levy and Konigsberg,
19 formerly Levy Phillips & Konigsberg, I would
20 approximate perhaps 75 to 80 cases.

21 Q. Cases?

22 A. Yes.

23 Q. And are those all on behalf of the plaintiff, to the
24 best of your recollection?

1 A. To the best of my recollection, that's correct. Yes.

2 Q. Okay. I'm going to mark a few more exhibits. Bear
3 with me for just a second. Okay. This is going to
4 be Exhibit 4.

5 (Exhibit No. 4 marked.)

6 BY MS. DEVINE:

7 Q. This is another item that was produced to us as part
8 of your file. This is an invoice dated July 1st,
9 2020, for Ms. TPPI. Do you see that document on your
10 screen?

11 A. Yes, I do.

12 Q. Okay. And is this reflective of what you charged to
13 produce the appraisal of economic loss for Ms. TPPI
14 in this case?

15 A. It's the invoice associated with my time and
16 compensation for that time for producing a report in
17 that matter. Yes.

18 Q. Okay. And does that rate, that \$3,600, include the
19 review of any materials, your analysis, and then the
20 preparation of your report, including the
21 calculations?

22 A. Yes, it does, as well as preparation for deposition
23 or trial.

24 Q. Okay. And can you give me a rough estimate of the

1 number of hours that you typically spend on an
2 analysis such as the ones produced in this case?

3 A. I don't keep any time records of that sort. It's a
4 flat fee. I would approximate typically somewhere
5 between 12 and 15, 16 hours.

6 Q. Okay. And is that consistent with what you did in
7 this case as well?

8 A. Yes.

9 Q. Okay. This will be Exhibit 5.

10 (Exhibit No. 5 marked.)

11 BY MS. DEVINE:

12 Q. This is another invoice. This one is dated July 3rd,
13 2020, for Ms. W[REDACTED]PPI. Do you see that?

14 A. Yes, I do.

15 Q. And this, again, is consistent with the amount of
16 time -- excuse me. This is consistent with the fee
17 that was charged to Attorney Stern's office for your
18 evaluation with respect to Ms. W[REDACTED]PPI, correct?

19 A. Yes.

20 Q. This will be Exhibit 6.

21 (Exhibit No. 6 marked.)

22 BY MS. DEVINE:

23 Q. This is for Mr. S[REDACTED]PPI. This is dated July 6, 2020.
24 Same question. Is this reflective of the amount

1 charged to Attorney Stern's firm for the analysis
2 completed for Mr. E PPI S PPI

3 A. For the time for that analysis, yes.

4 Q. Okay. And then Exhibit 7.

5 (Exhibit No. 7 marked.)

6 BY MS. DEVINE:

7 Q. This is the R PPI V PPI July 3rd, 2020,
8 invoice. And is that reflective of both the time
9 spent and the amount charged to Attorney Stern for
10 analysis in this case?

11 A. Yes.

12 Q. When you were contacted by Attorney Stern, did you
13 sign any sort of a retention, a retainer agreement?

14 A. No, I had no such agreement. And I should clarify, I
15 believe my initial contact was from someone at
16 Mr. Stern's office, Ashley Vieux.

17 Q. Okay. And you indicated that that was sometime
18 around May of this year; is that accurate?

19 A. I'm approximating sometime April to May of this year.

20 Q. Okay. And were you contacted by telephone?

21 A. I believe the initial contact may have been via
22 e-mail, and then I spoke with Mr. Vieux on the phone.

23 Q. Okay. Who else in Attorney Stern's office did you
24 speak to with respect to the analyses that you

1 completed in this case?

2 A. Mr. Vieux and Mr. Stern.

3 Q. Okay. And do you know when those conversations took
4 place?

5 A. Over the period of time from April to May until just
6 recently for the scheduling of the deposition.

7 Q. What was your specific assignment in this case,
8 Dr. Crakes?

9 A. To perform an appraisal of economic loss, the loss of
10 earning capacity for each of the individuals for
11 which my services were requested.

12 Q. And at any point, did that specific assignment change
13 before you testified here today?

14 A. No.

15 Q. What did you do to prepare for your deposition here
16 today?

17 A. I reviewed the materials in my files.

18 Q. Did you meet with anyone, either over Zoom or in
19 person?

20 A. I had a brief telephone conversation with Mr. Stern
21 yesterday, and I had been discussing with Mr. Vieux
22 the scheduling of the deposition.

23 Q. Okay. Do you have any familiarity with what the
24 Flint water crisis is?

1 A. Just a general observation from what's been covered
2 in the media.

3 Q. Okay. And can you tell us what that general sense
4 is?

5 A. That the public water supply had been contaminated
6 with lead, and that there were people who had had
7 issues associated with their health based upon that
8 contamination.

9 Q. Have you ever been to Flint, Michigan, before?

10 A. No.

11 Q. Have you ever spoken to any of the plaintiffs or
12 individuals who live in Flint?

13 A. Not to my knowledge.

14 Q. Okay. And I know we talked about any prior testimony
15 that you've given in Michigan. But have you ever
16 done any work in Michigan?

17 A. No. Not -- again, not that I recall.

18 Q. What opinions were you asked to reach in this case?

19 A. Well, I was provided with the estimates from I
20 believe it's Dr. Krishnan --

21 THE REPORTER: I'm sorry, you broke
22 up a little. Can you start your answer
23 again.

24 THE WITNESS: Yes. I believe I was

1 provided with reports from Dr. Krishnan.

2 And based upon the conclusions in those
3 reports, I was requested to make
4 calculations of the future loss of earning
5 capacity of each of the individuals.

6 BY MS. DEVINE:

7 Q. Other than assessing the earning capacity, lost
8 earning capacity, were there any other opinions you
9 were asked to reach in this case?

10 A. One of the other items that was included in each of
11 the reports was, I believe, a cost of monitoring.

12 Q. Where was that provided?

13 A. That was provided to me as a value that should be
14 included in each analysis.

15 Q. Okay. And who provided you that value?

16 A. Attorney Vieux indicated to me what the value was
17 that had been established by another person involved
18 in the matter.

19 Q. Did they tell you who that person was?

20 A. I believe there was some reference to Dr. Bithoney.

21 Q. Okay. Were you provided with any reports from
22 Dr. Bithoney?

23 A. No.

24 Q. Okay. And did you ask to see any reports from

1 Dr. Bithoney to verify that number that you were
2 given?

3 A. No, I did not.

4 Q. Have you reviewed Dr. Bithoney's initial deposition
5 transcript from day one of his deposition?

6 A. No.

7 Q. I'm going to mark next your reports. Just bear with
8 me for one second.

9 Okay. So we're going to start with
10 Exhibit 8.

11 (Exhibit No. 8 marked.)

12 BY MS. DEVINE:

13 Q. What I'm going to do is mark these first. We'll go
14 through the rest of the materials that were provided
15 with your file, and then we're going to go through
16 each of these reports in detail after that. Okay?

17 A. That's fine.

18 Q. Okay. So it's -- you were provided information for
19 four bellwether plaintiffs; is that correct?

20 A. Well, yes. And other cases as well. But these were
21 the four that were identified for me that would be
22 the subject of today's deposition.

23 Q. Okay. Thank you for that clarification.

24 For purposes of your analysis, you complete

1 one report for each plaintiff, correct?

2 A. Yes.

3 Q. There's not one summary report that was provided for
4 all of the plaintiffs in which you consulted,
5 correct?

6 A. That's correct.

7 Q. Okay. And in preparing this report in Exhibit 8, for
8 Ms. TPPI, did you prepare any draft reports?

9 A. No.

10 Q. Okay. And with respect to this report for Ms. TPPI
11 which is 36 pages in total, have you submitted or
12 drafted any addendums or supplemental reports?

13 A. Not at this time.

14 Q. Okay. And for the record, this report is dated
15 July 1st, 2020, correct?

16 A. Yes, it is.

17 Q. Okay. Next is Exhibit 9.

18 (Exhibit No. 9 marked.)

19 BY MS. DEVINE:

20 Q. This is the appraisal of economic loss for Ms. WPPPI
21 dated July 3rd, 2020. Do you see that?

22 A. Yes, I do.

23 Q. Okay. And in preparing this report, did you prepare
24 any draft reports?

1 A. No.

2 Q. Okay. And since you produced this report on
3 July 3rd, 2020, have you drafted any addendums or
4 supplemental reports?

5 A. Not at this time.

6 Q. Okay. Next is the appraisal of economic loss for
7 EPPPI SPPI [REDACTED]. This is Exhibit 10.

8 (Exhibit No. 10 marked.)

9 BY MS. DEVINE:

10 Q. It's dated July 6th, 2020, and it's, again, 36 pages.

11 In preparing this report, did you prepare
12 any draft reports?

13 A. No.

14 Q. Okay. And have you drafted any addendums or
15 supplemental reports to this?

16 A. Not at this time.

17 Q. Okay. And finally, Exhibit 11 is the appraisal of
18 economic loss for Ms. VPPPI [REDACTED].

19 (Exhibit No. 11 marked.)

20 BY MS. DEVINE:

21 Q. This is dated July 3rd, 2020. Again, 36 pages. And
22 in preparing this report, Dr. Crakes, did you prepare
23 any draft reports?

24 A. No.

1 Q. Okay. And have you drafted any addendums or
2 supplemental reports?

3 A. Again, not at this time.

4 Q. When you say not at this time for all four of those
5 plaintiffs, do you have an intention to prepare any
6 addendums or supplemental reports?

7 A. I have no plans to make any additional calculations.
8 If I'm requested to do so, I will.

9 Q. I'm sorry. You broke up just at the end there.

10 A. Yes. I have no plans to make any additional
11 calculations. If I'm requested to do so, I will.

12 Q. Okay. Thank you. In preparation of each four of
13 these reports, Exhibit 8, 9, 10, and 11, did you
14 consult any treatises, articles, or publications in
15 order to complete your analysis?

16 A. Well, the data sources that I relied on are
17 identified in my report.

18 Q. Okay. Any -- anything other than the data sources
19 specifically listed in your report, Dr. Crakes?

20 A. And my background and knowledge as an economist.

21 Q. Okay. I'm going to mark now the four reports from
22 Dr. Krishnan. And, again, I'm going to just go
23 through these just for purposes of marking your file,
24 and then we'll get into detail after that. Okay.

1 This is Exhibit 12.

2 (Exhibit No. 12 marked.)

3 BY MS. DEVINE:

4 Q. This is the report from Dr. Krishnan with respect to
5 Ms. TPPI It's nine pages. I'm just going to scroll
6 through it.

7 Is this the report that you were provided
8 from counsel with respect to Dr. Krishnan's opinions
9 in this matter?

10 A. I believe so, yes.

11 Q. Okay. And, again, I think I asked you this already.
12 But you've not reviewed Dr. Krishnan's deposition
13 transcript, correct?

14 A. That's correct.

15 Q. Okay. And this report is with respect to Ms. TPPI?

16 A. Yes.

17 Q. Were you provided with any other expert reports for
18 Ms. TPPI

19 A. There initially was a report from a Dr. Hoffman, but
20 that was not a report that I relied on in making my
21 calculations.

22 Q. Did that report -- is that report part of your file
23 in this case?

24 A. Yes. It's in my file, and it's a report that did not

1 provide any evidence in terms of the impact of the
2 contamination on Ms. T **PPI**

3 Q. What was the -- what was discussed in that report, to
4 the best of your recollection?

5 A. Again, I don't recall any detail. But the report was
6 not something that could be used in making any
7 calculations of economic loss.

8 Q. What is Dr. Hoffman's specialty?

9 A. I believe he's a Ph.D. in psychology.

10 Q. And is it your testimony that he just didn't reach
11 conclusions necessary in order for you to do your
12 work, or what is it about his report that caused you
13 not to rely on it?

14 A. There was -- there were no --

15 MR. STERN: Object to form. Alaina,
16 I'm not sure you know, or if you do know,
17 you can ask whatever questions you want,
18 we could not utilize Dr. Hoffman as an
19 expert because of COVID and he was unable
20 to travel to Michigan because of a
21 personal COVID situation that he had, at
22 which point we had to hire another expert,
23 which was Dr. Krishnan.

24 So while Dr. Hoffman began the

1 process and was paid to consult with us
2 and to begin the process of evaluating the
3 children, he was unable to complete his
4 task in light of COVID, which is why we
5 need an extension of time for
6 identification of experts, which is all on
7 the record in court. And it's not our
8 intention to utilize anything that
9 Dr. Hoffman did or didn't do, not because
10 of the quality of his work, but because of
11 his inability to complete the work in
12 light of the pandemic.

13 MS. DEVINE: Okay. I understand.

14 Thank you for that clarification.

15 BY MS. DEVINE:

16 Q. Dr. Crakes, other than the report of Dr. Hoffman and
17 Dr. Krishnan, were you provided any other expert
18 reports with respect to Ms. TPPI in this matter?

19 A. No.

20 Q. Okay. Next is Dr. Krishnan's report with respect to
21 Ms. WPPi. This is Exhibit 13.

22 (Exhibit No. 13 marked.)

23 BY MS. DEVINE:

24 Q. Again, it's nine pages. This was produced as part of

1 your expert file with respect to Ms. W[PPI] and in
2 relation to these cases. Is this the report from
3 Dr. Krishnan that you received and that you rely upon
4 in reaching your conclusions in your own report?

5 A. Yes.

6 Q. Okay. Other than Dr. Krishnan's report, are there
7 any other expert reports or information provided to
8 you by counsel with respect to Ms. W[PPI]?

9 A. Once again, a report from Dr. Hoffman, which I did
10 not rely on.

11 Q. Okay. And that's -- that's the entirety of the
12 expert information provided to you with respect to
13 Ms. W[PPI]; is that correct?

14 A. Yes.

15 Q. Next is Exhibit 14.

16 (Exhibit No. 14 marked.)

17 BY MS. DEVINE:

18 Q. This is the Dr. Krishnan report for Mr. E[PPI] S[PPI].
19 This one is 11 pages. And this was, again, produced
20 as part of your file with respect to Mr. S[PPI].

21 A. That's correct.

22 Q. Thank you. Are there any other experts that you --
23 expert reports or that you relied upon with respect
24 to your analysis that you completed for Mr. S[PPI]?

1 A. No.

2 Q. Okay. Finally, this is Exhibit 15.

3 (Exhibit No. 15 marked.)

4 BY MS. DEVINE:

5 Q. This is the Dr. Krishnan report for R[PPI]

6 V[PPI] This is 11 pages. And this was also
7 produced as part of your file with respect to your
8 work that you did on Ms. V[PPI], correct?

9 A. That's correct.

10 Q. And are there any other expert reports that you were
11 provided or that you relied upon in reaching your
12 conclusions with respect to Ms. V[PPI]?

13 A. Once again, for Ms. V[PPI] and Mr. S[PPI]
14 there was a report from Dr. Hoffman that was
15 provided. I did not rely on it in my analysis.

16 Q. Did you speak to Dr. Krishnan at any point in time
17 conducting your analysis in this case?

18 A. No.

19 Q. Okay. The next items that were produced in your
20 file, I'm going to mark as Exhibit 16 and Exhibit 17.

21 (Exhibit No. 16 marked.)

22 (Exhibit No. 17 marked.)

23 BY MS. DEVINE:

24 Q. But they are several documents. So I'm going to pull

1 up Exhibit 16 first. Do you see this document on the
2 screen here?

3 A. Yes, I do.

4 Q. Okay. And can you describe for us what this document
5 is?

6 A. Yes. I was requested to provide the statistical
7 tables that I relied on published by the U.S.
8 Department of -- U.S. Bureau of the census and in
9 conjunction with the Department of Labor, showing the
10 annual earnings by age, gender, and level of
11 educational attainment. So I provided copies of
12 those statistical tables to Mr. Stern's office.

13 Q. Okay. And you provided two sets. One set for
14 females and one set for males; is that correct?

15 A. That's correct.

16 Q. Okay. And for the females, I'm going to mark as
17 Exhibit 16 the entirety of the reports that were
18 given, and there were, I think, five that were given.
19 You have -- the one on the screen here, which is
20 females age 25 to 34, correct?

21 A. That's correct.

22 Q. Okay. And then you also provided the age ranges of
23 35 to 44, 45 to 54, 55 to 64, and then 65 and over;
24 is that correct?

1 A. That's correct.

2 Q. Okay. With respect to the male data that was
3 provided that we'll mark as Exhibit 17, can you see
4 that on the screen there?

5 A. Yes, I can.

6 Q. Can you, again, describe for us what we're looking at
7 in this table?

8 A. Again, I was requested to provide the statistical
9 tables that I relied on for the calculation of the
10 earning capacity of each of the individuals. And
11 these are the tables that I did provide concerning
12 the earnings of males by age, gender, and level of
13 education.

14 Q. Okay. And once again, you provided, and we'll mark
15 for Exhibit 17, the age ranges of 25 to 34, 35 to 44,
16 45 to 54, 55 to 64, and 65 and over, correct?

17 A. That's correct.

18 Q. Okay. One other dataset that you relied upon was the
19 employer cost for employee compensation information,
20 correct?

21 A. Well, for the calculation of any loss of fringe
22 benefits, I relied on a table which I provided in my
23 report. Yes.

24 Q. Okay. And those are Exhibit 4 in your report; is

1 that correct?

2 A. I believe that's correct. If I could just confirm
3 that. Yes.

4 Q. And then the only other data that I can see cited in
5 your report is the National Vital Statistics 2014
6 report from the Department of Health and Human
7 Services. Is that correct?

8 A. Life expectancy tables. Yes.

9 Q. Okay. I did not see those produced in your file but
10 was able to pull them up. So I'm going to make sure
11 we're talking about the same thing. This is Exhibit
12 18.

13 (Exhibit No. 18 marked.)

14 BY MS. DEVINE:

15 Q. And is this the document which you reference in your
16 report that you relied upon for life expectancy
17 information?

18 A. Yes, it is.

19 Q. Okay. I have now marked everything that was produced
20 to us as part of your file in this case. With the
21 exception of the Dr. Hoffman report, have you
22 produced all of the data that you relied upon in
23 reaching your conclusions and opinions in this case?

24 A. In reaching my conclusions and opinions that resulted

1 in my report, yes, that is all the material. I did
2 indicate that I did provide an updated list of my
3 appearances at trial, deposition, and arbitration.

4 Q. I've had the opportunity to review a few of your
5 prior depositions in unrelated cases. Do you
6 typically keep notes or spreadsheets of the
7 calculations that you complete that are summarized in
8 your reports?

9 A. Yes. And I had provided those to Attorney Stern's
10 office.

11 Q. Okay.

12 MS. DEVINE: Corey, I don't think we
13 ever received those. Corey, are you
14 there? Okay.

15 MR. STERN: I'm here. I'm here. I
16 was on mute. Yes.

17 MS. DEVINE: Sorry.

18 MR. STERN: If we have them and we
19 haven't sent them to you, I'll send them
20 to you during the break. I just have to
21 check with the paralegal on the case.

22 MS. DEVINE: Okay. I think that
23 would be helpful to have when we go
24 through Dr. Crakes' reports momentarily.

1 So we can break in a few minutes, if you
2 can see if you can track those down.

3 MR. STERN: Okay.

4 BY MS. DEVINE:

5 Q. Are there any other documents or materials that you
6 received in connection with your work on this case
7 that were not contained in the file materials that
8 were produced?

9 A. No.

10 Q. Okay. Can you describe for me, generally, the work
11 that you've done on this case chronologically, from
12 the first phone call that you received from Attorney
13 Stern's office.

14 A. Well, generally, the first phone call inquired as to
15 my availability, and then indication that there would
16 be some type of assessment provided of the impact of
17 the contamination on each of the individuals.
18 Ultimately, when I did receive the reports from
19 Dr. Krishnan, I reviewed them. I communicated my --
20 what I thought would be reasonable assumptions to
21 make concerning the conclusions that had been
22 generated by Dr. Krishnan and the impact on earning
23 capacity, and I then proceeded to make the
24 calculations.

1 Q. This information in Exhibit 3 that I've put up, which
2 was produced in your expert file, the section related
3 to facts or data considered. Do you see that?

4 A. Yes, I do.

5 Q. Okay. And how was this information presented to you?

6 A. Some of it was in Dr. Krishnan's report. Some of it
7 was provided to me specifically by Mr. Vieux, by
8 Ashley Vieux.

9 Q. In other cases that you've worked on, is that
10 communication of information typical in that you'd
11 receive some sort of under -- excuse me -- some sort
12 of underlying report and then have a communication
13 with counsel that you're working on the case specific
14 to what your opinions may or may not be in that case?

15 A. Well, the type of assessment that was provided from
16 Dr. Krishnan would certainly be applicable in a case
17 of this sort. Other matters where, for example, it's
18 a wrongful death matter, such a report would not be
19 necessary because there would be no residual earning
20 capacity for the individual. So it would depend upon
21 the nature of the case.

22 Q. Are there cases in which you're provided deposition
23 transcripts, either from the plaintiffs' witnesses or
24 experts?

1 A. In some cases, yes. Not in all.

2 Q. And that was not provided. None of those were
3 provided to you here; is that correct?

4 A. That's correct.

5 Q. Okay. And were you provided with any medical records
6 or educational records for any of these four
7 plaintiffs in which you were calculating economic
8 loss for?

9 A. No.

10 Q. Okay. Did you have any information, other than what
11 was contained within Dr. Krishnan's report, about any
12 preexisting conditions that each of these four
13 bellwether plaintiffs may have had?

14 A. No.

15 Q. And did you, other than the information provided in
16 Dr. Krishnan's report, have any information related
17 to how each of these four bellwether plaintiffs was
18 doing in school before the Flint water crisis?

19 A. No.

20 Q. And other than Dr. Krishnan's report and the
21 information contained therein, did you consider or
22 have any information about how these four bellwether
23 plaintiffs were doing in school after the Flint water
24 crisis or after April of 2014?

1 A. Once again, other than what was in Dr. Krishnan's
2 report, no.

3 Q. Okay.

4 MS. DEVINE: All right. Why don't we
5 take a break now.

6 Corey, can you see if you can track
7 down --

8 MR. STERN: Yeah. He's getting them
9 for me right now.

10 MS. DEVINE: Okay. So let's go off
11 the record, if we could, Robert.

12 VIDEOGRAPHER: The time is 9:57 a.m.,
13 and we're off the record.

14 (Recess taken.)

15 VIDEOGRAPHER: The time is 10:16 a.m.,
16 and we're on the record.

17 BY MS. DEVINE:

18 Q. Dr. Crakes, we just took a break, during which
19 counsel has provided me with some additional file
20 materials. So I'm going to mark those at this time,
21 if you just bear with me for one second.

22 A. That's fine.

23 Q. Sorry. The computer is moving at a snail's pace
24 here.

1 While that's pulling up, Dr. Crakes, you
2 had indicated to me before the break that you, in
3 connection with your work in this case and perhaps
4 others, make assumptions based on what the
5 information is that's presented to you; is that
6 correct?

7 A. Yes.

8 Q. Okay. And that's part of your role is to make those
9 assumptions and then perform your analysis based on
10 those specific assumptions, correct?

11 A. Yes. I usually do make them in consultation with the
12 attorney that's retained my services.

13 Q. Okay. And those assumptions could vary from
14 plaintiff to plaintiff and from case to case,
15 correct?

16 A. Yes.

17 Q. Okay. And do you believe that there is a standard
18 methodology in terms of calculating lost earning
19 capacity for child plaintiffs with no record of any
20 income?

21 A. Well, again, what we're measuring is earning
22 capacity. And certainly a child would not have any
23 record of any earnings, which is why one would rely
24 on the types of statistical data that I have here.

1 Q. Okay. And you're also relying, as you just
2 indicated, on information that's provided to you from
3 counsel, correct?

4 A. That's correct.

5 Q. Okay. And in your reports, you indicate that your
6 analyses are completed as scientifically and
7 accurately as the data permits. Is that standard
8 language that you use in your reports?

9 A. Yes. It's basically indicating that I'm relying on
10 the accuracy of the information provided to me by
11 those who have retained my services.

12 Q. Okay. And you also use a phrase based on the
13 available data, correct?

14 A. That's correct.

15 Q. Okay. And other than receiving a report from counsel
16 about what your assumptions may or may not be and the
17 reports from Dr. Krishnan, did you independently
18 verify any of the information provided to you with
19 respect to these four bellwether plaintiffs?

20 A. No.

21 Q. Okay. This is going to be Exhibit 19.

22 (Exhibit No. 19 marked.)

23 BY MS. DEVINE:

24 Q. This was what was just provided with respect to

1 Ms. TPPI Can you see that document here on the
2 screen?

3 A. Yes.

4 Q. Okay. And this is seven pages. It appears to be
5 some handwritten notes and some charts as well,
6 correct?

7 A. That's correct.

8 Q. Okay. So I want to start on the first page here with
9 Ms. TPPI, and it indicates here that assume date of
10 present to be September 1st of 2020. Do you see
11 that?

12 A. Yes.

13 Q. And what is the significance of that date with
14 respect to the calculations and the opinions that you
15 reached in this case?

16 A. Well, just to clarify, what we're looking at is an
17 outline that I prepared before beginning the analysis
18 of economic loss of each of these matters. The
19 assumed date of present is simply an identification
20 of when the -- usually it's a month or two after the
21 point in which -- at which I'm making the
22 calculations. So I'm just identifying --
23 calculations were made in July, let's say, so I
24 assumed that September 1st was the date of present.

1 Q. Okay. And you have a date of exposure of April 24th
2 of 2014. Do you see that?

3 A. Yes, I do.

4 Q. And who provided you with that information?

5 A. Attorney Stern's office.

6 Q. Okay. And did you independently verify what the
7 actual date of exposure was for Ms. TPPI?

8 A. No, I did not.

9 Q. Okay. And, again, you're familiarity with the Flint
10 water crisis or lead exposure that may have occurred
11 as a result of the Flint water crisis is based on the
12 information provided to you by Attorney Stern and
13 then some anecdotal information you've gathered from
14 news media; is that correct?

15 A. Yes. I would not refer to it as gathering. Just
16 awareness --

17 Q. Okay.

18 A. -- based on what I have read.

19 Q. Under the date of present, you have Michigan law
20 regarding economic loss. Do you see that?

21 A. Yes, I do.

22 Q. Okay. What can you tell me about what that note
23 means as reflected in your outline here?

24 A. The information provided to me was that the

1 calculations of economic loss should be undiscounted
2 and no deduction for income tax liability under
3 the -- under Michigan law with respect to economic
4 loss.

5 Q. Did you yourself, Dr. Crakes, investigate whether
6 that's actually true in Michigan?

7 A. I'm not -- I'm not an attorney. I did read an
8 article that appeared in the Journal of Forensic
9 Economics about eight or nine years ago. And then I
10 consulted with Attorney Stern, and the information
11 provided to me was that I should calculate the
12 economic loss undiscounted without any deduction for
13 income taxes.

14 Q. Was that article you're referring to one that was
15 written by Dr. William King?

16 A. I think that's correct.

17 Q. Okay. And you're aware that -- are you aware that
18 Dr. King was retained in connection with the Flint
19 water cases by some other plaintiffs?

20 A. No, I'm not.

21 Q. Okay. Did you speak to him in relation to your work
22 on this case?

23 A. No, I did not.

24 Q. Okay. Are you aware that Michigan has a 5 percent

1 discount rate -- per year applied to economic loss
2 damages?

3 THE REPORTER: I'm sorry, your audio
4 broke up. Can you repeat that, please.

5 MS. DEVINE: Sure.

6 BY MS. DEVINE:

7 Q. Are you aware that the State of Michigan applies a
8 5 percent discount rate compounded each year in
9 calculating economic loss damages?
10 A. Again, I'm not an attorney. So I'm not involved in
11 interpreting legal standards. But the understanding
12 I had was that when the values are ultimately
13 discounted, which often occurs after a trial, that is
14 the discount rate that is used. My understanding in
15 communication with Attorney Stern, as well as that
16 article, is that typically the values that are
17 presented are undiscounted, no deduction for income
18 taxes. Any discounting would typically occur after
19 the fact.

20 Q. So you've not provided any value for what that
21 discounted loss would be, correct?

22 A. The values in my report are all undiscounted. That's
23 correct.

24 Q. Okay. In this outline here and in your report for

1 each of the bellwether plaintiffs, the four

2 bellwether plaintiffs that we're discussing today,

3 you use four scenarios, correct?

4 A. Well, the scenarios did vary depending upon the case.

5 But yes, there were -- I had two unimpaired earnings

6 alternatives and two impaired earnings alternatives.

7 So there were four different estimates of economic

8 loss.

9 Q. Okay. And for Ms. TPPI, we have on the screen here,

10 and, again, this is your file materials, your

11 unimpaired earnings alternatives were a female with a

12 bachelor's degree and a female with a master's

13 degree, correct?

14 A. That's correct.

15 Q. Okay. And for a female with a bachelor's degree, you

16 assume that that -- that Ms. TPPI would work from age

17 23 to age 67, correct?

18 A. No. She would have an earning capacity from age 23

19 to age 67.

20 Q. Okay. And then similarly, for a master's degree, her

21 earning capacity would be age 25 to 67, correct?

22 A. That would be the period of time for her earning

23 capacity. Yes.

24 Q. What is the source of determining what the unimpaired

1 earnings would be for Ms. TPPI?

2 A. The report from Dr. Krishnan.

3 Q. Okay. We're going to pull that up.

4 Okay. Can you direct me where in this
5 report Dr. Krishnan states that but for lead exposure
6 as a result of the Flint water crisis, Ms. TPPI would
7 have attained a bachelor's or master's degree?

8 A. Well, it's based on her recommendations at the end of
9 her report, and I made that determination after
10 reviewing those recommendations in consultation with
11 Attorney Stern.

12 Q. Okay. So what specific recommendation leads you to
13 the belief that Ms. TPPI would have a bachelor's or
14 master's degree but for lead exposure?

15 A. It's based on the statement No. 2, the phrasing that
16 there was a possibility that these issues may prevent
17 completion of college or graduate training.

18 Q. So you're looking at the sentence that begins with
19 overall; is that correct?

20 A. That's correct.

21 Q. Okay. She indicates here that the -- there is a
22 moderate possibility that these issues may prevent
23 completion of college or graduate training. Is that
24 the sentence that you're referring to?

1 A. Yes, it is.

2 Q. Okay. And she assigns a 30 to 50 percent rate to
3 that. Do you see that?

4 A. I do.

5 Q. Okay. And that's the possibility outcome that she
6 assigns with respect to failure to complete college
7 or graduate school, correct?

8 A. That appears to be the case. Yes.

9 Q. So you're inferring from Dr. Krishnan's statement
10 here that Ms. TPPI would, in fact, have completed
11 college or graduate training?

12 A. As I've indicated, in consultation with Attorney
13 Stern, I -- we proposed -- or I proposed estimating
14 her unimpaired earning capacity as a female with a
15 bachelor's degree and as a female with a master's
16 degree.

17 Q. Okay. But that certainly is not stated explicitly in
18 Dr. Krishnan's report, correct?

19 A. That's correct.

20 Q. And are you a vocational expert, Dr. Crakes?

21 A. No, I am not.

22 Q. Okay. And are you qualified to give vocational type
23 opinions?

24 A. No, I am not, nor have I done so.

1 Q. Okay. Are you qualified to offer an opinion that
2 lead exposure would reduce a plaintiff's future
3 academic potential?

4 A. No, I'm not qualified to make that determination.

5 Q. Okay. And have you done that here, Dr. Crakes?

6 A. No, I've not.

7 Q. Okay. Other than the statement in Dr. Krishnan's
8 report that as a result of lead exposure, there may
9 be a 30 to 50 percent chance that Ms. TPPI may not
10 complete college or graduate training, is there
11 anything in Dr. Krishnan's report that reflects her
12 unimpaired academic potential?

13 A. Again, I'm relying on the conclusions and
14 recommendations from Dr. Krishnan's report, as we
15 just discussed.

16 Q. Okay. This paragraph here, though, discusses what
17 her impaired academic potential would be, correct?

18 A. Well, my understanding is it's assessing both, what
19 she would have been able to do perhaps absent the
20 poisoning and what she now will be capable of doing.

21 Q. Does it say, though, Dr. Crakes, that but for the
22 lead exposure, Ms. TPPI would have graduated college
23 or completed graduate training? Does it say that in
24 Dr. Krishnan's report?

1 A. I don't know if it says that anywhere else in her
2 report. Again, I'm relying on the assessment that
3 she made in her recommendations section at the
4 conclusion of her report.

5 Q. Okay. And, again, these recommendations are the
6 opinions she's reached with respect to their level of
7 functioning as a result of lead exposure, correct?

8 A. Again, I'm not assessing Dr. Krishnan's report or
9 making any assessment of that sort myself. I'm
10 relying on the conclusions and recommendations she
11 has identified.

12 Q. Okay. With respect to this specific recommendation
13 regarding college or graduate training, she clearly
14 states, if you look at the 30 to 50 percent, that
15 there is a 50 to 70 percent chance that Ms. TPPI
16 would complete college or graduate training, correct?

17 A. Well, I believe -- again, I can't speak for
18 Dr. Krishnan. I'm not sure that's exactly what it
19 says. But again, I'm not speaking for her at this
20 point.

21 Q. Well, okay. That's fair. What I'm trying to get at,
22 Dr. Crakes, is the assumption that you reached in
23 your report that but for the lead exposure, Ms. TPPI
24 would have reached college -- excuse me. Would have

1 had a bachelor's or master's degree. So what I'm
2 trying to gather is where that information came from
3 specifically.

4 A. Again, after reviewing the recommendations and
5 conclusions of Dr. Krishnan, and in consultation with
6 Attorney Stern, I calculated the economic loss on the
7 basis of the assumptions that we've been discussing.

8 Q. Okay. So as far as unimpaired earnings, based on
9 your review of Dr. Krishnan's report, which is that
10 one section you read to me, you believed it was
11 reasonable to assume that Ms. TPPI would have
12 obtained a bachelor's or master's degree but for lead
13 exposure; is that correct?

14 A. I made a calculation of economic loss based on those
15 two alternatives of unimpaired earnings.

16 Q. Okay. And you personally have no opinion whether or
17 not Ms. TPPI would have had the capacity, interest,
18 or ability to complete a bachelor's or master's
19 degree, correct?

20 A. As I think we've identified, I'm not qualified to
21 make that determination.

22 Q. Okay. Do you know if Dr. Krishnan is a vocational
23 expert?

24 A. I don't know what Dr. Krishnan's training is.

1 Q. Okay. Do you know if she's qualified to give an
2 opinion on an individual's future earning capacity?

3 A. I'm not making any assessment of Dr. Krishnan's
4 qualifications.

5 Q. Okay. Do you think it's important to know whether or
6 not the data that you're relying on is reliable?

7 A. Well, I'm relying on the accuracy of the data
8 provided to me, as we discussed a few moments ago,
9 and I'm relying on Dr. Krishnan's report. I'm not
10 qualified to make any assessment of those
11 qualifications.

12 Q. Well, my question is, do you think it's important
13 that when you're completing your calculations, the
14 data that's provided to you is accurate? Or are you
15 just asked to look at data and make your
16 calculations?

17 MR. STERN: Objection.

18 THE WITNESS: I'm relying on the
19 accuracy --

20 MR. STERN: Objection. Asked and
21 answered.

22 THE WITNESS: I'm sorry. Yes. I'm
23 relying on the accuracy of the data that's
24 been provided to me, as I believe I've

1 indicated a number of times.

2 BY MS. DEVINE:

3 Q. So let me go back to your outline here for a second.

4 Okay. So your impaired earnings values for Ms. TPPI
5 are earnings as a female with 9th to 12th grade
6 education, correct?

7 A. Yes.

8 Q. And then earnings as a female with a high school
9 graduate, correct?

10 A. That's correct.

11 Q. Okay. And can you explain for us the source of those
12 impaired earning scenarios?

13 A. That same paragraph from the report of Dr. Krishnan.

14 Q. Okay. Let's pull that up. So can you explain for me
15 where in Dr. Krishnan's report it states that as a
16 result of lead exposure, Ms. TPPI will only complete
17 either 9th to 12th grade or obtain a high school
18 graduate or GED degree?

19 A. It's the same sentence that we were referring to
20 earlier.

21 Q. Okay. And that's the sentence that says, overall, I
22 would estimate her likelihood of not graduating high
23 school to be low?

24 A. That's correct.

1 Q. Okay. So Dr. Krishnan is actually saying that
2 there's a good chance that Ms. TPPI will graduate
3 high school, correct?

4 A. Well, she provides a percentage. What I have
5 calculated is what her impaired earnings would be as
6 a high school graduate, and then if she did not
7 finish high school, what those impaired earnings
8 would be.

9 Q. Okay. Why didn't you calculate something above high
10 school graduate if Dr. Krishnan states here that the
11 chances of her not graduating high school are low?

12 A. Well, I calculated her earning capacity in her
13 impaired condition as a high school graduate and one
14 of those alternatives.

15 Q. Okay. But why didn't you do something more than a
16 high school graduate, like some college or bachelor's
17 degree or an associate's degree or a master's degree?

18 A. Well, I believe the assessment is that with the
19 impairments that Ms. TPPI is experiencing, she would
20 have a likelihood perhaps of graduating from high
21 school with some percentage potential of not doing
22 so. And that's what I relied on in discussion with
23 Attorney Stern for the assumptions of her impaired
24 earning capacity.

1 Q. But that's not stated in Dr. Krishnan's report that
2 she -- that there's a strong likelihood that she
3 won't complete high school, correct?

4 MR. STERN: Objection. Asked and
5 answered.

6 BY MS. DEVINE:

7 Q. You can answer, Dr. Crakes.

8 A. I said yes, I think that's correct.

9 Q. Okay. And with respect to her ability to complete
10 college or graduate training, she just says that
11 there's a 30 to 50 percent chance that her injuries
12 could prevent her from completing college or graduate
13 training, correct?

14 A. That's what she states. Yes.

15 Q. So said another way, there's a 50 to 70 percent
16 chance that she could complete college or graduate
17 training, correct?

18 A. As I believe I answered when you asked me that
19 question before, I don't know.

20 Q. Well, isn't that what it states in the report,
21 Dr. Crakes?

22 A. No, it does not.

23 Q. Okay. So what does it say about her chances of
24 completing college or graduation, as you understand

1 this section to mean? Excuse me. College or
2 graduate training.

3 A. Again, I don't want to speak for Dr. Krishnan. But I
4 believe it's indicating that there was a 30 to 50
5 percent chance that, probability, that she may not
6 finish college.

7 Q. Okay. Have you provided any calculations for
8 Ms. TPPI for loss of earning capacity that she
9 complete some college?

10 A. No, I've not.

11 Q. And why didn't you do that?

12 A. As I've indicated to you a number of times, in
13 consultation with Attorney Stern, after reviewing
14 this paragraph, those are the assumptions that were
15 made.

16 Q. Were you told not to make that calculation?

17 A. No.

18 Q. Why didn't you calculate for the possibility that
19 Ms. TPPI complete college?

20 A. Well, the calculation was made for her completing
21 college and her earning capacity as a female with a
22 bachelor's degree. That calculation was provided.

23 Q. For someone who's unimpaired, correct?

24 A. Yes.

1 Q. Okay. So my question is, and I apologize, that was
2 not clear, for your impaired values, which we went
3 over are between 9th and 12th grade or graduating
4 high school, you've indicated you did not provide a
5 calculation for her completing some college. My
6 question is, did you provide a calculation for
7 impaired values for completing college?

8 A. Well, it would be the same as the unimpaired value
9 that I calculated. But no, I did not label it as
10 such.

11 Q. Okay. And what about for an associate's degree?

12 A. No, I did not.

13 Q. Okay. And what about for a master's degree?

14 A. I calculated her earning capacity as a female with a
15 master's degree as a portion of the alternatives for
16 someone with unimpaired earnings.

17 Q. Okay. But your report with respect to impaired
18 earnings does not include calculation for a master's
19 degree, correct?

20 A. That's correct.

21 Q. Okay. You're not saying that your calculations for
22 bachelor's and master's degree could carry over to
23 your unimpaired conclusions, are you?

24 A. If I understand the question correctly, I provided

1 the two alternatives for unimpaired earnings and the
2 two alternatives for impaired earnings, as we've been
3 discussing.

4 Q. Okay. So you're not saying that we should look at
5 your calculations for bachelor's and master's degree
6 in considering what Ms. TPPI impaired earnings may
7 be, are you?

8 A. No, I'm not.

9 Q. Okay. I want to look back for a second. Sorry. And
10 this was Exhibit 19, I believe. Exhibit 19. These
11 are -- this is your -- back to your outline for
12 Ms. TPPI, correct?

13 A. Correct.

14 Q. Okay. And you indicate here that you've applied an
15 annual rate of growth of 3.5 percent, correct?

16 A. That's correct.

17 Q. Okay. And then for fringe benefits, you've indicated
18 10 percent of the earnings difference, correct?

19 A. That's correct.

20 Q. And then for future cost of care, you indicate \$5,000
21 per year for medical monitoring for the remaining
22 life expectancy, correct?

23 A. Yes.

24 Q. And you apply 3.5 percent annual rate of growth to

1 the cost of future care, correct?

2 A. Yes.

3 Q. Okay. Is this all of the information that you used
4 to make your calculations that are reflected in your
5 report and in these spreadsheets we've been provided?

6 A. Well, to clarify, it's not all the information. It's
7 an outline that I produced for my own use in going
8 through the calculations of economic loss.

9 Q. And, again, this was information that was provided to
10 you primarily by Attorney Stern's office in
11 consultation with Dr. Krishnan's report and then some
12 of the data and statistics that we've gone over,
13 correct?

14 A. Yes. And my discussion with Attorney Stern as to the
15 assumptions regarding unimpaired and impaired
16 earnings.

17 Q. Okay. And did you ask any follow-up questions with
18 respect to specifics on these individual plaintiffs,
19 other than what's reflected in your report here?

20 MR. STERN: Objection. Work product.

21 I don't think it's appropriate for
22 Dr. Crakes to testify about what he and I
23 discussed with regard to his consulting
24 with our firm. So I'd ask him not to

1 answer that question.

2 MS. DEVINE: I'll ask it a different
3 way without getting into that.

4 BY MS. DEVINE:

5 Q. If you look at -- give me one second -- Exhibit 3.

6 This was one of the data sheets provided to us in
7 your expert file. It has your list of testimony on
8 here, and it says facts or data considered. Do you
9 see that?

10 A. Yes, I do.

11 Q. Okay. And this follows generally what's included in
12 your report and in your outline in terms of the date
13 of birth of each plaintiff, correct?

14 A. Yes.

15 Q. And the date of exposure of each plaintiff, correct?

16 A. That's correct.

17 Q. And the gender of each plaintiff, correct?

18 A. Yes.

19 Q. Okay. And then we just discussed the reports from
20 Dr. Krishnan, the cost of care of \$5,000, and then
21 the government statistics. Do you see that?

22 A. Yes, I do.

23 Q. Okay. In your work as an economist and in completing
24 these analyses, are there other datasets that you

1 will look to or rely upon in reaching your opinions?

2 A. Depends upon the nature of --

3 Q. I'm sorry. I didn't hear your answer.

4 A. It would depend upon the nature of the case at hand.

5 Q. Okay. Well, in a case such as the one before you,
6 where you're dealing with a child plaintiff, no
7 earnings record, what other information or data have
8 you taken into account in the past?

9 A. Well, these would be the data sources that I would
10 rely on. As I think I indicated earlier, if this,
11 for example, were a wrongful death matter, then there
12 would be no necessity for an assessment of what the
13 child would be able to do in their impaired state.
14 But in a personal injury matter, if a child is not
15 totally disabled, then there would have to be some
16 type of assessment of impaired earnings.

17 Q. Does the geographical area in which a plaintiff
18 lives, does that ever factor into your calculations?

19 A. Well, it certainly affects the legal standards that
20 are applied. That would certainly be one of the
21 things that would depend upon geographic location, if
22 you're referring to what state they're living in.
23 And, again, it would depend upon the circumstances of
24 the case at hand. If we had someone who -- if we had

1 someone who was older and had an established
2 occupation, one could look at earnings for where they
3 were residing for that occupation, but that's not the
4 case here.

5 Q. It's true, though, that vocational experts, even if
6 there isn't a record of earnings, will look to such
7 factors such as geographical areas and job prospects
8 in that area in reaching a conclusion about earning
9 potential of a particular plaintiff, correct?

10 A. Some may do that. Again, I'm not a vocational
11 analyst, and I'm not speaking for vocational
12 analysts.

13 Q. In your work as an economist and in completing these
14 analyses, you've been provided with vocational
15 reports, correct, in other cases?

16 A. Yes, I have.

17 Q. Okay. And in your career of consulting on litigation
18 matters, how many vocational reports would you say
19 you've reviewed?

20 A. I really don't know.

21 Q. Okay. Can you assign a percentage in which cases
22 that you work on provide some sort of vocational
23 report to you?

24 A. I really don't know.

1 Q. Okay. Is it more common in a case with a child
2 plaintiff to be provided with a vocational report
3 because without any record of earnings, it can be
4 more difficult to determine what educational
5 attainment or profession that individual may go into?

6 MR. STERN: Object to form.

7 THE WITNESS: It would depend. In
8 some cases, I'm provided with assumptions
9 of that sort that have been made, and I
10 make calculations based on those
11 assumptions. In other matters, a
12 vocational assessment may be provided. It
13 depends upon the circumstances of the
14 case.

15 BY MS. DEVINE:

16 Q. Okay. I want to go through the actual calculations
17 that you've completed, starting with Ms. TPPI. So
18 this is Exhibit 8. Can you take us through here, on
19 page 3, the summary of your opinions as you reflected
20 in your report? I know we've spoken about them
21 briefly. But can you just explain for the record the
22 scenarios that you've put forth and the numbers that
23 you reached for each of the scenarios?

24 A. Yes. I think it might be more straightforward if we

1 were to look at pages 6 and 7, Exhibit I and IA. The
2 page 6 -- should I continue or would --

3 Q. Yes, please. Thank you.

4 A. Page 6 provides the estimate of economic loss with
5 unimpaired earnings as a female with a bachelor's
6 degree, and then the two alternative impaired
7 earnings assumptions, female with a 9th to 12th grade
8 education and female high school graduate.

9 As we move down the two columns, the value
10 for unimpaired earnings as a female with a bachelor's
11 degree, the undiscounted value is provided. From
12 that, we subtract the impaired earnings for the two
13 different alternatives. We then add the fringe
14 benefits and the future cost of care for the
15 remaining life expectancy and arrive at the net
16 undiscounted economic loss values at the bottom of
17 each of those columns.

18 Q. Okay. And this is the first scenario where you have
19 unimpaired earnings for a bachelor's degree, correct?

20 A. That's correct. And if we turn to page 7, the same
21 format is provided, but this time the unimpaired
22 earnings are as a female with a master's degree. And
23 the same procedure is followed. Arriving at the
24 total net of undiscounted economic loss, after

1 subtracting the impaired earnings for 9th to 12th
2 grade education and high school graduate, and adding
3 fringe benefits and the cost of care for the
4 remaining future life expectancy, the total net
5 undiscounted economic loss is at the bottom of the
6 two columns.

7 Q. Okay. I want to start with how you -- or what values
8 you're using for each year for earning capacity, both
9 impaired and unimpaired. And I think that
10 information is more accurately reflected in the
11 charts that you provided; is that correct?

12 A. Yes.

13 Q. Okay. And to be clear, we went through some of the
14 data earlier with the Exhibit 16, which is these
15 charts that you've produced to us, correct?

16 A. That's correct.

17 Q. Okay. So can you -- for Ms. TPPI, in the first
18 scenario, which is unimpaired bachelor's degree,
19 inform us as to what values you're using for each
20 year to calculate the unimpaired earnings.

21 A. You have to turn to the spreadsheets that you
22 referred to. If you go to the next page, right
23 there, the values are provided for the female with a
24 bachelor's degree and impaired earnings with a 9th to

1 12th grade education, and then in the lower portion
2 of the table, with the impaired earnings as female
3 high school graduate. The unimpaired earnings and
4 impaired earnings in column C and D are arrived at
5 using the data source that you referred to a moment
6 ago with that 3 and a half percent rate of increase
7 year to year. So the undiscounted values for those
8 earnings levels by education are provided in columns
9 C and D by the ten-year age increments that we
10 referred to earlier.

11 Q. Okay. So for each year, you applied that median
12 earnings, depending on the age in which Ms. TPPI was
13 for the year that you're calculating; is that
14 correct?

15 A. That's correct.

16 Q. Okay. And these are national statistics, correct?

17 A. Yes, they are.

18 Q. And these statistics begin at age 25, correct?

19 A. Yes, they do.

20 Q. Okay. So for the calculations you're making for
21 earning capacity under the age of 25, such as the
22 scenario 1 where you have a bachelor's degree,
23 starting work at age 23, and then impaired earnings
24 with a 9th to 12th grade education at age 18, what

1 values are you using for computing lost income where
2 your tables start at age 25?

3 A. So about ten years ago, it may be longer than that or
4 shorter than that, but the Census Bureau published
5 those values for less than 25 years of age. They
6 stopped doing so. What I have done is gone back and
7 looked at the years when those values were provided
8 and recognized that typically the earnings for
9 someone under 25 with each level of educational
10 attainment and each gender was approximately 70
11 percent of what the earnings were between 25 and 34,
12 and I continued to use that 70 percent approximation
13 for ages less than 25.

14 Q. Okay. Thank you for that explanation.

15 Why do you use, Dr. Crakes, average income
16 data in your calculations?

17 A. I'm not using average income data. I'm using median
18 value -- --

19 Q. Median.

20 A. -- and earnings values, not total income.

21 Q. Okay.

22 A. Only the earnings that an individual would receive
23 from employment.

24 Q. Okay.

1 A. I don't use the mean because mean values are more
2 subject to the effect of extreme values. Median
3 values are taking all the values in the series,
4 ranking them from highest to lowest, and selecting
5 that value which is at the midpoint of that ranking.
6 Typically, median values are less than the mean
7 because median values are less subject to skewness or
8 the impact of extreme values. And in all of the
9 earnings data that I've employed in these reports
10 that we're discussing today, the mean values were
11 higher than the median. I used the median, not the
12 mean.

13 Q. Okay. And you do that for the reasons you just
14 explained; is that correct?

15 A. Yes.

16 Q. Okay. You'd agree that for someone with a bachelor's
17 degree or college graduate, there would obviously be
18 a range of income depending on what that individual
19 may have majored in, correct?

20 A. It's a range of earnings. And yes, the data are by
21 educational level, but are not occupation specific.

22 Q. Same question for someone with a master's degree.
23 That could vary based on what they received their
24 master's degree in, correct?

1 A. It can, yes.

2 Q. Okay. And there'd be also differences in earnings
3 based on the actual occupation that that individual
4 goes into, whether it be engineering, economics, or
5 the like, correct?

6 A. That's correct.

7 Q. Okay. With respect to the \$5,000 future medical --
8 per year medical monitoring costs that you used for
9 each of these four bellwether plaintiffs, you
10 indicated the source of that was somebody in Attorney
11 Stern's office; is that correct?

12 A. That's correct.

13 Q. Okay. And other than that conversation with respect
14 to that value, there's no other dataset or report
15 that you're relying on to reach that \$5,000, correct?

16 A. Correct.

17 Q. And what is that? What does the \$5,000 represent?
18 What type of care does it represent?

19 A. It's been referred to me as medical monitoring. I
20 don't know anything beyond that.

21 Q. Do you know whether or not any of these four
22 plaintiffs are currently receiving the type of care
23 for which your \$5,000 a year would cover?

24 A. I don't know.

1 Q. And you assumed that the cost of care, \$5,000 a year,
2 is the same for all four plaintiffs; is that correct?

3 A. Yes, I did.

4 Q. Okay.

5 A. Well, I should say I did not assume that. That's the
6 information that was provided to me.

7 Q. And what -- when does that \$5,000 per year start? Is
8 that the September 1st, 2020, date?

9 A. That's correct.

10 Q. Okay. And did you ask any questions, again, about
11 the source that Attorney Stern's office had for the
12 \$5,000 a year?

13 A. No.

14 Q. Okay. You had mentioned earlier something about a
15 report from Dr. Bithoney; is that correct?

16 A. I did not see any reports from Dr. Bithoney. It was
17 my understanding that perhaps Dr. Bithoney -- I don't
18 know this with certainty -- but perhaps Dr. Bithoney
19 was the source of that value of \$5,000 per year, but
20 I don't know.

21 Q. When we look in your report, the \$5,000 a year, when
22 you calculate your totals, that's about \$1,473,900,
23 correct?

24 A. Undiscounted. Yes.

1 Q. Okay. And that's the same no matter what because
2 you're applying the same \$5,000 per year no matter
3 the scenario, correct?

4 A. And the same remaining life expectancy. Yes.

5 Q. Okay. If it turned out that that plaintiff only
6 required \$1,000 per year for future medical
7 monitoring, your calculations would be off, right?

8 A. Alternative assumptions would generate an alternative
9 result. Yes.

10 Q. Okay. If Attorney Stern's office had told you that
11 the cost of medical monitoring for each of these
12 plaintiffs -- and obviously we're looking at the TPPPI
13 report but I would apply this to all four of the
14 plaintiffs -- was \$10,000 a year, would you have
15 calculated that?

16 A. If the information provided to me was that the cost
17 per year was that value, yes, that's what I would
18 have used.

19 Q. Okay. And what about if it was \$20,000 per year?

20 A. Again, I'm not qualified to make a determination of
21 what those costs of care would be. So I would rely
22 on the information that was provided to me.

23 Q. Okay. So whatever the number is that you were given
24 from Attorney Stern's office, that's what you would

1 plug in and calculate, correct?

2 A. I would rely on that information. Yes, I would.

3 Q. Okay. Have you done any independent investigation
4 about the cost associated with lead poisoning or
5 medical conditions as a result of lead poisoning?

6 A. No, that's not my area of expertise.

7 Q. Okay. And did you have an understanding that the
8 \$5,000 a year would be for injuries that may develop
9 in the future?

10 A. I don't know.

11 Q. Okay. You weren't provided any sort of life care
12 plan for any of these plaintiffs, correct?

13 A. That's correct.

14 Q. Okay. And in other cases where you have child
15 plaintiffs and you're computing cost of care, you
16 have been provided with life care plans, correct?

17 A. In some cases, I have. Yes.

18 Q. With respect to the fringe benefits calculation,
19 which is line III here on page 6 of your report -- do
20 you see that?

21 A. Roman numeral III, yes.

22 Q. Okay. How did you calculate the fringe benefits?

23 A. I calculated the loss of fringe benefits based on the
24 earnings differential between the unimpaired earnings

1 and the impaired earnings. I calculated fringe
2 benefits at 10 percent of that earnings difference.
3 When we think about fringe benefits in the United
4 States for workers on average, we typically think of
5 something much greater than 10 percent. But I'm not
6 including any of the employment-based, legally
7 mandated benefits, only the discretionary benefits
8 that employers provide on average for health and
9 pension-related benefits. That's an average for
10 workers in the neighborhood of 12 to 15 percent. I'm
11 using 10 percent of that earnings difference in my
12 analysis.

13 Q. Okay. And are there occupations out there in which
14 fringe benefits would not be provided to an employee?

15 A. Yes. These are statistical averages.

16 Q. Okay. And you provide that same statistical average
17 for all four bellwether plaintiffs here, correct?

18 A. I use the same 10 percent of the earnings difference.
19 That's correct.

20 Q. Okay. With respect to work life calculations and
21 life expectancy, can you tell us the assumptions that
22 you have with respect to work life and life
23 expectancy?

24 A. Life expectancy is based upon the table that you

1 referred to earlier, the U.S. life. I typically use
2 the year of the incident. There are life tables that
3 are more current than 2014. But since 2014 was the
4 date of first exposure, those are the life expectancy
5 tables that I employed with respect to the period of
6 time over which earning capacity would be
7 experienced. I'm sorry. Did you want me to refer to
8 these?

9 Q. Yeah. Could you point me here in Exhibit -- let me
10 see. What did I do -- 18 the values that you
11 assigned specific to Ms. TPPI on life expectancy.

12 A. You would have to scroll down to the detailed tables.

13 Q. Which tables specifically?

14 A. Keep going. I could --

15 Q. Okay.

16 A. All right. Scroll down to the life tables for total
17 population for females.

18 Q. Okay.

19 A. I can indicate when you can -- that's males. If we
20 -- one more page. So if we stop there, at four years
21 of age, the life expectancy is 77.7 years. At five
22 years of age, life expectancy is 76.8 years. At the
23 age of exposure, APPI TPPI was 4.9 years of age.

24 So I interpolated between 77.7 and 76.8 and arrived

1 at 76.89 years of life expectancy at 4.9 years of
2 age.

3 Q. And, again, these are national statistics, correct?

4 A. Yes.

5 Q. Okay. And are there fact -- individualized factors
6 that would affect someone's life expectancy?

7 A. There can be. But it's -- life expectancy tables are
8 for everyone. It's not just for people in perfect
9 health. It's people on average. So people with a
10 variety of different characteristics, behaviors. So
11 it's a statistical average. It's an average life
12 expectancy.

13 Q. And things such as geography, perhaps income, and the
14 like, could affect life expectancy, correct?

15 A. Again, it's a statistical average with all of those
16 factors involved in influencing what that average is.

17 Q. But as it relates to these four bellwether
18 plaintiffs, those individualized type factors were
19 not considered. You were relying on national
20 statistics, correct?

21 A. Well, national statistics are one thing. The
22 averages of all people with a variety of different
23 characteristics would be another. But yes, they
24 are -- the data are national and it's -- it's all

1 females.

2 Q. Okay. Can you explain to us now how you reached your
3 work life calculations?

4 A. Yes. I calculated the earning capacity of APPI
5 TPPI to age 67 with different starting points,
6 depending upon her level of education. So I would --
7 it's not the same starting point for each of the four
8 alternatives, the two impaired, the two unimpaired.

9 I calculated to the age 67 for a variety of
10 reasons. I consulted tables on work life expectancy,
11 tables on years to final separation from the labor
12 force. Also currently the age of attainment under
13 current law of the standard social security benefit
14 is age 67. The maximum benefit is age 70. Based on
15 all of those inputs, I felt it was reasonable in all
16 scenarios to calculate the earning capacity to age
17 67.

18 Q. Okay. You would agree with me that there's
19 circumstances in which an individual either may
20 become ill or may choose to remove themselves from
21 the workforce before the age of 67, correct?

22 A. Yes. But keeping in mind that if one, for example,
23 as you put it, chooses to remove themselves from the
24 workforce, they may not be working. But that doesn't

1 mean they don't have an earning capacity.

2 Q. Okay. And did you take into consideration the
3 possibility that any of the bellwether plaintiffs
4 would be out of work, either voluntarily or
5 involuntarily, prior to age 67?

6 A. Well, as I've indicated, if they're out of work
7 voluntarily, they would still have an earning
8 capacity. If they're out of work involuntarily, I
9 did not include as a fringe benefit any compensation
10 often associated with such experiences.

11 Q. And there's certain types of professions or
12 employment that may have, say, greater physical
13 demand on a person, such that people retire earlier
14 than 67, correct?

15 A. Yes. These are statistical averages, however. Some
16 work more, some work less.

17 Q. Okay. But as far as individualizing those statistics
18 for these four bellwether plaintiffs, you're using
19 the national averages, correct?

20 A. I'm relying on the inputs that I've already reviewed.

21 Q. Okay. And you've also made assumptions for Ms. T **PPI**
22 and for all of the bellwether plaintiffs based on
23 their level of educational attainment when they would
24 have started working. I think you have ages 18, ages

1 23, and ages 25, depending on what level of education
2 they receive, correct?

3 A. That's correct.

4 Q. But it's true, is it not, Dr. Crakes, that some
5 people could start working later than that, despite
6 their educational attainment, correct?

7 A. Yes. But they would still have an earning capacity.

8 Q. Okay. Do you have -- are you assuming then that each
9 of these bellwether plaintiffs will remain in the
10 workforce until age 67?

11 A. I'm assuming they would have had an earning capacity
12 or will have an earning capacity to age 67.

13 Q. So you're not giving an opinion on the likelihood or
14 probability that they would, in fact, remain in the
15 workforce or remain consistently employed until age
16 67, correct?

17 A. Once again, it's an estimate of earning capacity.

18 Q. Okay. And as far as unimpaired earnings and your
19 calculations of those, are you making any assumptions
20 as to the probability that but for the Flint water
21 crisis, Ms. TPPI or any of these bellwether
22 plaintiffs would have been consistently employed
23 until age 67?

24 A. Well, I think there are a few parts to that question.

1 I'm not assuming that they would be consistently
2 employed. I'm assuming they would have had an
3 earning capacity.

4 And I think the other part of your question
5 related to the issues with respect to the degree of
6 impairment and the injuries that they've suffered.

7 I'm not qualified to make any assessment of that.

8 I'm relying on the report from Dr. Krishnan.

9 Q. Okay. With respect to your 3.5 annual rate of
10 growth, can you tell us specifically -- that was
11 applied to all four bellwether plaintiffs, correct,
12 on all four possible outcomes for each bellwether
13 plaintiff?

14 A. That's correct.

15 Q. Okay. And can you tell us how you reached that
16 number and what it represents?

17 A. I've looked at earnings trends for workers in the
18 United States historically, and certainly it does
19 vary over time. We are going quite a few years out
20 into the future. And what I would be more inclined
21 to do is look at the longer term historical record.
22 If we go back 50 years, 60 years at the trends of
23 earnings of workers in the United States, the annual
24 growth rate has been above 4 percent. I would not

1 rely on just current rates. In the last -- in 2019,
2 the rate of growth in earnings for workers on average
3 was 3.57 percent. I'm not relying on just one year.
4 But when I go back and look at the historical record
5 over 50 to 60 years in the past, earnings growth has
6 been above on average 4 percent per year for workers
7 in the United States. I felt going forward in these
8 analyses that using 3 and a half percent per year was
9 a reasonable assumption.

10 Q. Thank you. Would you agree with me that wage
11 increases would depend on where an individual may be
12 geographically located in the U.S.?

13 A. It can vary. It varies over time. What I'm
14 referring to is what it has been on average over that
15 50 to 60-year period historically. And yes, it
16 varies by -- it varies by occupation. It varies by
17 geographic region. But it's an average over time.

18 Q. Would you agree with me that it varies depending on
19 what type of occupation or educational attainment a
20 person reaches as well?

21 A. I just indicated that. Yes.

22 Q. Okay. But that was not reflected in your
23 calculations, correct? You just used a 3.5 percent
24 no matter what the earnings were or either impaired

1 or unimpaired, correct?

2 A. I just indicated it's a statistical average, taking
3 into consideration that all of those different
4 factors that you're referring to enter into that
5 average. The average over that last 50 to 60 years
6 is 4.1 to 4.2 percent. I'm using 3 and a half
7 percent.

8 Q. With respect to Ms. TPPI, your unimpaired earnings
9 calculations assume either a bachelor's or master's
10 degree, correct?

11 A. As we've discussed. Yes.

12 Q. And your impaired, the highest level of educational
13 attainment would be high school graduate or GED,
14 correct?

15 A. Yes.

16 Q. In making these calculations for your unimpaired, did
17 you factor in the cost of higher education, that
18 being for a bachelor's or master's degree?

19 A. No.

20 Q. And why did you not do that?

21 A. I'm calculating the loss of earning capacity to the
22 individuals.

23 Q. Okay. That would be a cost that Ms. TPPI would have
24 to undertake, if you assume the unimpaired scenario

1 for a bachelor's or master's degree, would be the
2 cost of obtaining that degree, correct?

3 A. There may be a cost of attaining it, there may not
4 be. It would depend upon circumstances.

5 Q. Okay. But that's not something you factored into
6 your calculations, correct?

7 A. Not for the loss of earning capacity. No.

8 Q. All right. I want to go next to Ms. WPPI, if we
9 could. And, Dr. Crakes, is Ms. WPPI file in front
10 of you?

11 A. Yes, I have my file for D PPI WPPI in front of me.
12 Yes.

13 Q. Okay. And I'm looking first at Exhibit 9, which is
14 your report. And I'm also going to mark as
15 exhibit -- I think I'm at 19.

16 THE REPORTER: I believe it's 20.

17 MS. DEVINE: 20? Okay. Thank you.

18 (Exhibit No. 20 marked.)

19 BY MS. DEVINE:

20 Q. -- the report that we received this morning, which
21 are your calculations and handwritten notes with
22 respect to Ms. WPPI. Do you see that?

23 A. Yes, I do.

24 Q. Okay. Can you take us through the opinions that you

1 reached with respect to Ms. W[REDACTED], as reflected in
2 your report and your outline?

3 A. Well, if you want me to look at -- you have the
4 outline up in front of us at this point. Should I
5 refer to it, or would you like me to look at the
6 summaries that were provided in the report?

7 Q. Let's go with the outline first.

8 A. Well, as I indicated, I prepared an outline for each
9 of these cases before beginning the calculations.
10 The information, most of it is as we discussed
11 before.

12 In this case, based upon the vocational
13 assessment, the calculation of unimpaired earnings is
14 based on earnings as a female with an associate's
15 degree and earnings as a female with a bachelor's
16 degree, the impaired earnings as a female with a 9th
17 to 12th grade education and as a female high school
18 graduate.

19 Q. And with respect to the assumptions made on
20 unimpaired and impaired earnings, where did you --
21 what is the source of those assumptions?

22 A. The report from Dr. Krishnan.

23 Q. Okay. So we'll look at Exhibit 13, which is
24 Dr. Krishnan's report. Can you direct me here where

1 Dr. Krishnan explains Ms. WPPI unimpaired earning
2 potential?

3 A. On page 9, recommendation No. 2.

4 Q. Okay. And can you point me where, in recommendation
5 2, Dr. Krishnan states that Ms. WPPI unimpaired
6 earning potential is either an associate's or
7 bachelor's degree?

8 A. She makes reference to two or four-year college
9 degrees.

10 Q. Okay. Is that in the second sentence here?

11 A. Yes. And it goes on where I think there's some
12 discussion of magnitude of risk.

13 Q. Okay. And is Dr. Krishnan talking about Ms. WPPI
14 current health status in recommendation No. 2 or her
15 pre Flint water crisis health status?

16 A. I don't know. I can't speak for Dr. Krishnan.

17 Q. Okay. So if Dr. Krishnan here is referring to
18 Ms. WPPI current level of functioning as someone
19 who's able to obtain a two or four-year college
20 degree, did you present calculations for Ms. WPPI
21 based on impaired values for a two or four-year
22 college degree?

23 A. No, because I think she goes on to discuss the risk
24 of not achieving those degrees.

1 Q. Okay. Looking now down further in the paragraph.
2 Can you point directly where you're referring to,
3 Dr. Crakes?

4 A. Well, Dr. Krishnan has a phrasing about two-thirds of
5 the way down the paragraph, increasing the risk of
6 dropout, she refers to. And then she goes on and
7 refers to the dropout rate would be higher for
8 someone in a collegiate training center -- setting.
9 Excuse me.

10 Q. Okay. So can you point, Dr. Crakes, where in this
11 report Dr. Krishnan gives an assessment of Ms. WPPPI
12 unimpaired earning capacity?

13 A. Well, as I think we indicated in the previous report,
14 I consulted with Mr. Stern after reviewing this
15 report, as he did as well. And where there is
16 reference to the two and four-year college degree
17 potential, it is then referred to in the lower
18 portion of that paragraph that this rate of dropout
19 would be even higher in a collegiate setting. And
20 for that reason, because of the dropout in
21 post-secondary education situations, the assumptions
22 were made that absent injury, her unimpaired earnings
23 would have been those of a female with an associate's
24 degree or a bachelor's degree.

1 Q. So you've taken the risk of dropout to assume that
2 she would, in fact, drop out and not receive a two or
3 four-year college degree; is that correct?

4 A. Well, to clarify, as I've indicated before, the
5 assumptions that were made were based upon the
6 description from Dr. Krishnan. And based upon that
7 description in consultation with Attorney Stern, the
8 calculation was determined to be made for unimpaired
9 earnings as a female with an associate's degree and
10 with a bachelor's degree.

11 Q. Okay. And you, again, are not yourself giving an
12 opinion on whether or not Ms. WPPI would have
13 obtained an associate's or bachelor's degree but for
14 the Flint water crisis, correct?

15 A. That's correct.

16 Q. And you yourself are not opining that as a result of
17 the Flint water crisis, Ms. WPPI will only obtain
18 a high school education or graduate high school,
19 correct?

20 A. That's correct.

21 Q. Okay. You were not provided any vocational reports
22 for Ms. WPPI, correct?

23 A. I was provided with the report from Dr. Krishnan and
24 the -- as I've indicated earlier, the report that was

1 not used from Dr. Hoffman.

2 Q. But you didn't rely on Dr. Hoffman's report, correct?

3 A. No, I did not.

4 Q. Can you explain for us the differences between

5 Ms. TPPI and Ms. WPPI, such that you believe Ms. TPPI

6 would be capable of obtaining a bachelor's or

7 master's degree, whereas Ms. WPPI would be only

8 capable of obtaining an associate's or bachelor's

9 degree but for the Flint water crisis?

10 A. I made no assessment or comparative evaluation

11 between these two individuals. I'm not qualified to

12 do so. I'm relying on the reports from Dr. Krishnan.

13 Q. Okay. And you don't know what data or information

14 Dr. Krishnan based any of the conclusions in her

15 report on, correct?

16 A. No, I don't. I'm not qualified in her field.

17 Q. Okay. So despite the fact that we have two different

18 unimpaired earning values for Ms. TPPI and Ms. WPPI,

19 you have them both at the same impaired earning

20 capacity, that being either a high school education

21 or GED, correct?

22 A. Based on the evaluation of Dr. Krishnan, that's

23 correct.

24 Q. Okay. So was there some sort of assumption made that

1 Ms. W[REDACTED]'s lead exposure or cognitive deficits were
2 more significant than Ms. T[REDACTED]

3 A. I don't know.

4 Q. Was that an assumption you made in making your
5 calculations?

6 A. Ma'am, I'm not qualified to make that determination.

7 Q. Okay. If we look back at Exhibit 9, can you take us
8 through the values and calculations that you made
9 with respect to Ms. W[REDACTED]

10 A. Yes. If we go to Exhibits I and IA.

11 Page 6, Exhibit Roman numeral I is the
12 calculation of the loss of earning capacity with
13 unimpaired earnings as a female with an associate's
14 degree. That's the first entry in the summary.
15 Impaired earnings are then subtracted as a female
16 with a 9th to 12th grade education and as a female
17 high school graduate. The discussion of fringe
18 benefits, again, that's included. And then the
19 continuing cost of care for the remaining future life
20 expectancy based on that \$5,000 per year. And with
21 those values, we arrive at the total net undiscounted
22 economic loss.

23 If we turn to page 7, Exhibit Roman numeral
24 IA, the same format is provided, this time with

1 unimpaired earnings as a female with a bachelor's
2 degree.

3 Q. And for Ms. W[PPI], you're using the median income
4 values for each year in which you estimate or
5 calculate earning capacity, correct?

6 A. Clarify. Median earnings values. Yes.

7 Q. And those were the same values that we looked at in
8 Exhibit 16 for females beginning at age 25, correct?

9 A. Median annual earnings values currently would be the
10 same. The application of those values would result
11 in a different value ultimately because of the period
12 of time over which the 3 and a half percent per year
13 growth would have occurred. Ms. W[PPI] and Ms. T[PPI]
14 are not the same age. So that would explain the
15 difference in values. That percent would be applied
16 for differing numbers of years to the point at which
17 the earning capacity would commence at ages 20 -- 18,
18 20, or 23.

19 Q. And with respect to Ms. W[PPI], you used the same
20 fringe benefit, 10 percent, correct?

21 A. Yes, I did.

22 Q. And you used the same future cost of care, \$5,000 per
23 year, correct?

24 A. Same current annual cost of \$5,000 applied for a

1 different remaining future life expectancy. Yes.

2 Q. Okay. And in determining Ms. WPPI life expectancy,
3 you went through the same process that you did for
4 Ms. TPPI; is that correct?

5 A. I did.

6 Q. Okay. And that was to take her age and use the
7 tables that we displayed I think in Exhibit 18 on
8 life expectancy, correct?

9 A. Yes. She was 5.68 years of age at the time of
10 exposure. So the calculation would be from -- at
11 five years and at six years, and then interpolating
12 between those two values and arriving at a future
13 life -- at a life expectancy from the date of
14 exposure of 76.12 years.

15 Q. Did you reach any other opinions with respect to
16 Ms. WPPI loss of earning capacity not reflected in
17 the report in Exhibit 9?

18 A. No. This is the report of the undiscounted economic
19 loss for D PPI W PPI

20 Q. Okay. And, again, you did not calculate the
21 unimpaired earning values for Ms. WPPI on anything
22 above a bachelor's degree, correct?

23 A. That's correct.

24 Q. And you did not calculate any impaired earning

1 capacity above a high school graduate, correct?

2 A. That's correct.

3 Q. Okay. And that's based on a decision made in reading
4 Dr. Krishnan's report and in consultation with
5 Attorney Stern?

6 A. Yes.

7 Q. And next we're going to look at SPPI report. So
8 this is Exhibit -- no. Hold on one second.

9 So I now have up on the screen Exhibit 10,
10 which is your report for EPPI SPPI; Exhibit 14,
11 which is Dr. Krishnan's report for EPPI SPPI; and
12 then what we'll mark as Exhibit 21, which are your
13 file materials produced this morning for EPPI
14 SPPI.

15 (Exhibit No. 21 marked.)

16 BY MS. DEVINE:

17 Q. And can you explain for us, Dr. Crakes, generally,
18 starting with the outline that I have on the screen
19 here, the opinions that you reached with respect to
20 Mr. EPPI SPPI.

21 A. I just want to clarify. I don't know if it's true
22 for everybody else, but I don't have the outline up
23 on the screen.

24 Q. Oh, okay. Thank you. Can you see that now?

1 A. Yes.

2 Q. Okay. So this will be Exhibit 21. This is seven

3 pages of materials that were provided for EPPPI

4 SPPI. Okay. So could you take us through,

5 Dr. Crakes, the opinions that you reached with

6 respect to EPPPI SPPI

7 A. Yes. The information is provided at the top of the

8 page, the date of birth of Mr. SPPI, as well as

9 the date of exposure. The unimpaired earnings were

10 calculated based upon the report from Dr. Krishnan,

11 both as a male with a bachelor's degree and a male

12 with a master's degree; the impaired earnings as a

13 male with a 9th to 12th grade education and a male

14 high school graduate; fringe benefits and the future

15 cost of care similar to as we've been discussing.

16 Q. Okay. So in determining the unimpaired earnings for

17 Mr. SPPI, is it fair to say, similar to other

18 bellwether plaintiffs, that you relied on

19 Dr. Krishnan's report and your conversations with

20 Attorney Stern?

21 A. That's correct.

22 Q. Okay. So if we look at Exhibit 14, which is

23 Dr. Krishnan's report, can you point to me where in

24 Dr. Krishnan's report she opines that but for the

1 Flint water crisis, Mr. SPPI would have obtained a
2 bachelor's or master's degree?

3 A. Toward the -- item No. 2 under recommendations is
4 reference to the possibility that his issues may
5 prevent him from completing college or graduate
6 training.

7 Q. So in recommendation 2, Dr. Krishnan states while an
8 IQ at the current age is not completely predictive of
9 long-term outcome, individuals at this intellectual
10 level are generally able to graduate from high school
11 with a diploma, correct?

12 A. Yes.

13 Q. Okay. So with respect to your impaired values for
14 Mr. SPPI, you have him at a 9th to 12th grade
15 education and a GED, correct, as your two different
16 scenarios?

17 A. The high school graduate and 9th to 12th grade
18 education, based upon the reference made to the
19 potential for high school dropout, elevated risk of
20 high school dropout.

21 Q. Okay. Do you know what the risk is, as reflected in
22 Dr. Krishnan's report, for the record?

23 A. Only what it says in that paragraph. I don't know
24 anything else, nor am I qualified to make that

1 determination.

2 Q. Okay. And she goes on to say that individuals at
3 this intellectual level can, likewise, succeed at a
4 two or a four-year college, correct?

5 A. Yes. But then refers to the possibility --

6 Q. Yes.

7 A. -- of dropout.

8 Q. So she goes on to say that there's a moderate
9 possibility that his issues may prevent him from
10 completing college or graduate training, right?

11 A. That's correct.

12 Q. Okay. So she raises issue with his ability to
13 complete college, correct?

14 A. Well, she refers to a dropout possibility.

15 Q. Okay. But you didn't provide any calculations for
16 the fact that EPPI would complete some college,
17 correct?

18 A. No, I did not. That's correct.

19 Q. Okay. And does it say anywhere in Dr. Krishnan's
20 report that EPPI would not complete some college?

21 A. Well, only to the extent, as we were just discussing,
22 about the possibility of dropout.

23 Q. Dropout of college, correct?

24 A. Or graduate school. Yes.

1 Q. Okay. But she doesn't reach an opinion in her report
2 that he would not complete some college, only that
3 there's a risk of dropout, correct?

4 A. She identifies a risk of dropout. That's correct.

5 Q. And that risk is 25 to 50 percent, correct?

6 A. That's the indication. Yes.

7 Q. And that's from either college or graduate training,
8 correct?

9 A. Yes.

10 Q. Okay. So fair to say that she estimates a 50 to 75
11 percent chance that EPPI could complete college or
12 graduate training?

13 A. I don't know.

14 Q. Okay. You don't read her report to indicate that?

15 A. That's not what she's stated, so I'm -- I'm not
16 qualified to -- or speak -- qualified to assess
17 Dr. Krishnan's analysis, nor am I speaking for her.

18 Q. Okay. And it was based on your reading of this
19 report and consultation with Attorney Stern that you
20 chose not to present any calculations for the
21 potential that EPPI might complete some college,
22 might complete college or might complete some
23 graduate school or complete graduate school, correct?

24 A. That's correct.

1 Q. Okay. When we look at the report that you have for
2 Mr. SPPI [REDACTED], and this is true with respect to the
3 other bellwether plaintiffs as well, the four
4 scenarios that you give, that being the impaired
5 versus unimpaired for a bachelor's degree versus a
6 master's degree with respect to Mr. SPPI [REDACTED], the
7 range in values for your total net undiscounted
8 economic loss is pretty significant, correct?

9 A. Well, depending upon the assumptions made, yes.

10 Q. Okay. So, for example, with Mr. SPPI [REDACTED], the lowest
11 undiscounted economic loss that you assign would be
12 \$6,720,000, correct?

13 A. That is the lowest of the four values. Yes.

14 Q. Okay. And then the highest of the four values that
15 you assign in 11,906,000, correct?

16 A. Yes.

17 Q. So that's over a \$5 million difference, correct?

18 A. Yes, it is.

19 Q. Okay. And with respect to Mr. SPPI [REDACTED], and as it
20 applies to all four bellwether plaintiffs, can you
21 assign any degree of certainty which of the four
22 possible scenarios are likely to come to fruition?

23 A. No.

24 Q. Were you asked to assign any type of percentage

1 likelihood that one of the four scenarios would
2 occur?

3 A. No.

4 Q. What type of information would you need in order to
5 do so?

6 A. I would not. These are four alternative scenarios
7 based on alternative assumptions.

8 Q. And, again, with Mr. SPPI and with all four
9 bellwether plaintiffs, none of these values represent
10 the current -- or the present value, correct?

11 A. That's correct. All the values in the report are
12 undiscounted.

13 Q. So we'll look at Ms. VPPI next. Actually, I
14 wanted to just clarify one thing on Mr. SPPI.
15 With respect to life expectancy, did you use the same
16 methodology that you applied to the previous two
17 plaintiffs, WPPI and TPPI

18 A. Yes.

19 Q. Okay. And with respect to calculating work life, did
20 you use the same methodology applied to TPPI and
21 WPPI

22 A. Yes.

23 Q. Okay. And here, because Mr. SPPI is a male, you
24 used slightly different values in determining what

1 the impaired and unimpaired earnings would be over
2 Mr. SPPI [REDACTED] lifetime, correct?

3 A. Yes. The median annual earnings values, as I've
4 indicated, vary by age, race, and gender. So there
5 would be a different set of median annual earnings
6 values for men than there would be for women.

7 Q. Okay. And here you applied the different median
8 values based on age and gender, correct?

9 A. And education. Yes.

10 Q. Okay. And the values for Mr. SPPI [REDACTED] would be
11 slightly higher based on the statistics provided in
12 Exhibit 17 going all the way -- this is 35 to 44.
13 But it begins at 25 and goes up to 67, correct?

14 A. That's correct.

15 Q. Okay. And those values are reflected in the charts
16 that you've produced in Exhibit 21; is that correct?

17 A. Yes.

18 Q. Okay. And, again, you used a 3.5 rate of growth for
19 Mr. SPPI [REDACTED], correct?

20 A. Yes, I did.

21 Q. Okay. Okay. Now we can turn to Ms. VPPI [REDACTED]. So
22 what I have on the screen here will be Exhibit 22.

23 (Exhibit No. 22 marked.)

24

1 BY MS. DEVINE:

2 Q. These are your notes and spreadsheets that were
3 produced this morning with respect to
4 Ms. V[REDACTED]. Do you see that on the screen?

5 A. Yes, I do.

6 Q. Okay. And then I also have before you Exhibit 11,
7 which is your appraisal of economic loss for R[REDACTED]
8 V[REDACTED] and then Exhibit 15, which is
9 Dr. Krishnan's report for Ms. Va[REDACTED]. Do you
10 see that?

11 A. Yes.

12 Q. Okay. Starting with your outline for
13 Ms. V[REDACTED] can you summarize the opinions that
14 you reach as reflected in this outline and then in
15 your report.

16 A. Yes. So the outline I prepared prior to beginning
17 the calculations of economic loss have R[REDACTED]
18 V[REDACTED]'s name, gender, and her date of birth, as
19 well as the date of exposure. The unimpaired
20 earnings values are calculated based upon the report
21 of Dr. Krishnan, are as a female with an associate's
22 degree and a female with a bachelor's degree. The
23 impaired earnings are calculated based on the report
24 of Dr. Krishnan as a female with a 9th to 12th grade

1 education and as a female high school graduate. The
2 fringe benefits and future cost of care assumptions
3 are the same as in the prior reports.

4 Q. Okay. And you have, as you stated, Ms. V PPI
5 as obtaining an associate's or a bachelor's degree,
6 correct?

7 A. Yes, I do.

8 Q. And that's the same degree that you used in your
9 calculations for Ms. W PPI, right?

10 A. That's correct.

11 Q. Okay. And are you opining that Ms. V PPI --
12 excuse me. Your impaired values, however, are the
13 same for Ms. V PPI as it is for all four
14 bellwether plaintiffs, that being as a result of the
15 lead exposure, she'll only either have some high
16 school education or obtain a GED or high school
17 graduate, correct?

18 A. A 9th to 12th grade and high school graduate, of
19 course, for Mr. S PPI, those values are applied as
20 a male, whereas for the other three cases, they're as
21 a female.

22 Q. Are you giving any opinion on the -- on
23 Ms. V PPI lead exposure, that being that it
24 only dropped her from an associate's or bachelor's to

1 a 9th grade education or GED, versus Mr. S PPI or
2 Ms. T PPI who went from bachelor's or master's down
3 to the same values of 9th to 12th grade or GED?

4 A. If I understand the question correctly, I'm not
5 qualified to make that determination. I'm relying on
6 the report of Dr. Krishnan.

7 Q. Okay. So let's take a look at Dr. Krishnan's report
8 for Ms. V PPI Can you point to me where in
9 Ms. -- in Dr. Krishnan's report she speaks to
10 Ms. V PPI unimpaired earning potential?

11 A. It would be under recommendations, No. 2.

12 Q. Okay. So No. 2 states, while IQ at the current age
13 is not completely predictive of long-term outcome,
14 individuals at this intellectual level are generally
15 able to graduate from high school with a diploma,
16 correct?

17 A. As stated, yes.

18 Q. She also says they can also succeed at two or
19 four-year college education, although her cognitive
20 deficits do likely increase the likelihood of failure
21 to complete college level training and increase the
22 risk of R PPI working below her potential, such as
23 preventing success in a skilled vocation. Do you see
24 that?

1 A. Yes, I do.

2 Q. Okay. So which sentence in this recommendation 2
3 sets Ms. V[REDACTED] unimpaired earning capacity to
4 be that of someone with an associate's or bachelor's
5 degree?

6 A. Dr. Krishnan identified two-year or four-year college
7 education, but then indicated there's an increased
8 likelihood of failure to complete college level
9 training. So based on that statement and my
10 consultation with Attorney Stern, I calculated her
11 unimpaired earnings with an associate's degree and
12 with a bachelor's degree.

13 Q. Okay. So you understand this sentence to be speaking
14 to her health condition before or after the Flint
15 water crisis?

16 A. I don't know.

17 Q. Okay. And Dr. Krishnan opines, at least in this
18 recommendation, does she not, that individuals at
19 this level are generally able to graduate from high
20 school with a diploma, correct?

21 A. Yes, that is indicated.

22 Q. Unlike the other reports, Dr. Krishnan does not speak
23 to cognitive deficits that would impact
24 Ms. V[REDACTED] ability to complete high school,

1 does she?

2 A. No. Other than her indication at the conclusion of
3 that paragraph, that there's an increased risk of her
4 working below her potential.

5 Q. Okay. But she doesn't say anything about an impaired
6 inability to complete high school, correct?

7 A. No. But other than indicating that she has a risk of
8 working below potential.

9 Q. Okay. Well, she's stated in other reports when she
10 sees that risk, right?

11 A. She has different ways of describing these things in
12 the circumstances of each case. So I'm not looking
13 for any similarity between the reports. Based on
14 what her conclusions and recommendations were and my
15 consultation with Attorney Stern, the determination
16 was made to estimate her impaired earnings, both with
17 a 9th to 12th grade education and as a high school
18 graduate.

19 Q. But it's fair to say, Dr. Crakes, that she doesn't
20 call in to question, specifically in this
21 recommendation, a risk of dropout from high school,
22 correct?

23 A. Not specifically. That's correct.

24 Q. Okay. Nonetheless, you did provide a calculation,

1 and as one of your four outcomes the -- or two of the
2 four outcomes, that she would only obtain some high
3 school education, correct?

4 A. A 9th to 12th grade education. That's correct.

5 Q. Okay. And that was made based on your review of this
6 report, as well as your consultation with Attorney
7 Stern?

8 A. Yes.

9 Q. Okay. And you indicated that the last sentence of
10 this section discussing her working below her
11 potential had some sort of significance to you.

12 A. I just indicated that there was -- that that was a
13 statement that Dr. Krishnan had made.

14 Q. Okay. And what -- how did that play into your
15 calculations or your assumptions in making your
16 calculations?

17 A. As I think I've indicated, based upon my review and
18 my consultation with Attorney Stern, we decided to
19 provide not only the earnings as a female high school
20 graduate in her impaired condition but also earnings
21 as a female with a 9th to 12th grade education.

22 Q. Okay. With respect to your unimpaired
23 calculations -- excuse me. With respect to your
24 impaired calculations, Dr. Krishnan also says in her

1 report that individuals such as Ms. V PPI [REDACTED] can
2 also succeed at a two or four-year college education,
3 correct?

4 A. Yes.

5 Q. And she goes on to say that her cognitive deficits do
6 increase the likelihood of failure to complete
7 college level training, correct?

8 A. Yes.

9 Q. But she's not saying here that Ms. V PPI [REDACTED]
10 wouldn't complete some college, correct?

11 A. Not that I'm aware of. But that's why the two
12 alternatives were provided.

13 Q. Okay. Well, you didn't provide any calculations that
14 Ms. V PPI [REDACTED] would complete some college.

15 A. No, I did not.

16 Q. Okay. And as I just stated, or just asked you,
17 nowhere in Dr. Krishnan's report does she say that
18 Ms. V PPI [REDACTED] wouldn't complete some college,
19 correct?

20 A. That's correct.

21 Q. Okay. In fact, she says that individuals at
22 Ms. V PPI [REDACTED] level of cognition can complete a
23 two or four-year college education, correct?

24 A. Yes. And then goes on to say the effect of her

1 cognitive deficits.

2 Q. Would affect her ability to complete college,
3 correct?

4 A. Yes.

5 Q. But it doesn't say it would affect her ability to
6 attend some college, correct?

7 A. That's correct.

8 Q. Okay. And if we looked at those charts that we had
9 in Exhibit 16, there are values you could have used
10 for Ms. VPP [REDACTED] and for each of the four
11 bellwether plaintiffs for impaired earnings with some
12 college, correct?

13 A. There's a category of some college. That's correct.

14 Q. Okay. And that's not a category that you used or
15 presented in any four of your reports, correct?

16 A. That's correct.

17 Q. All right. With respect to Ms. VPP [REDACTED], you used
18 the same methodology in determining work life,
19 correct?

20 A. The period of time of her earning capacity. Yes, I
21 did.

22 Q. Okay. And you used the same methodology in
23 determining life expectancy, correct?

24 A. Yes, I did.

1 Q. You used the same value in determining fringe
2 benefits, correct?

3 A. The same methodology, yes.

4 Q. Okay. And you used the same methodology in applying
5 future cost of care, correct?

6 A. That's correct.

7 Q. And if we look at your calculations for
8 Ms. V^{PPI} [REDACTED], can you take us through here your
9 methodology and the values you ascribed to these four
10 scenarios.

11 A. Yes. As I indicated in the other cases, the
12 spreadsheets are provided on pages 2 and 3. The
13 unimpaired and impaired earnings are based upon the
14 median annual earnings values for each age increment,
15 with the adjustment every year by 3 and a half
16 percent as we move out into the future. And those
17 values are then presented in the report, Exhibits
18 Roman numeral I and IA.

19 Q. So if we look at Roman numeral I, the lowest value
20 for impaired earnings that you've calculated for
21 Ms. V^{PPI} [REDACTED] is \$3,487,323, correct?

22 A. Yes. I believe you said the lowest value for
23 impaired earnings. Actually, that's the lowest value
24 for the undiscounted economic loss.

1 Q. Thank you. And the highest value for undiscounted
2 economic loss that you computed for Ms. VPP [REDACTED]
3 was \$8,217,806, correct?

4 A. That's correct.

5 Q. And, again, there's a gap between the low and high
6 range of calculations you've presented of nearly
7 \$5 million?

8 A. That's correct.

9 Q. And are you able to assign any percentage of
10 certainty to any of these four outcomes?

11 A. No. There are four alternative scenarios presented
12 as such.

13 Q. Okay. And, again, they're based on the assumptions
14 that you are provided, correct?

15 A. The information that was provided to me and the
16 assumptions made, some of those in consultation with
17 Attorney Stern.

18 Q. Okay. And you weren't asked to assign any percentage
19 of likelihood for Ms. VPP [REDACTED] for any of these
20 four scenarios, correct?

21 A. That's correct.

22 Q. And with respect to these four values, you have not
23 calculated their present value, correct?

24 A. The values in my report are all undiscounted.

1 Q. And I neglected to ask you similar questions for
2 Ms. T~~PPI~~ and Ms. W~~PPI~~. But the -- I'll pull them up
3 real quick, just for the record here.

4 If you look at Exhibit 8, which is your
5 report for Ms. T~~PPI~~, the lowest value that you've
6 assigned for her undiscounted economic loss is
7 \$5,522,513, correct?

8 A. Yes.

9 Q. Okay. And the highest that you've calculated is
10 \$8,493,798, correct?

11 A. Yes.

12 Q. Okay. And that's a difference of almost \$3 million,
13 right?

14 A. Yes, it is.

15 Q. Okay. And you did not -- you cannot here today
16 assign any percentage of certainty to the outcome of
17 one of any four scenarios that you've provided,
18 correct?

19 A. Correct. There are four alternative scenarios that
20 are being presented.

21 Q. And you weren't asked to do that, correct?

22 A. That's correct.

23 Q. And similarly, Ms. T~~PPI~~ losses have not been
24 calculated to present value, correct?

1 A. All the values in my report are undiscounted. That's
2 correct.

3 Q. Okay. And just briefly, Ms. WPPi, which is
4 Exhibit 9 -- and I apologize for not doing this
5 before -- you have your net undiscounted loss. The
6 lowest value you have for her is \$2,910,953, correct?

7 A. That's correct.

8 Q. Okay. And then the highest that you have for her is
9 \$6,869,306, correct?

10 A. That's correct.

11 Q. Okay. And that's a difference of about \$4 million,
12 correct?

13 A. Approximately, yes.

14 Q. Okay. And, again, you were not -- you cannot, as you
15 sit here today, assign any percentage of certainty to
16 any of these four outcomes, correct?

17 A. That's correct. There are four alternative scenarios
18 presented as such.

19 Q. Okay. And these four values are not calculated to
20 their present value, correct?

21 A. That's correct. The values in the report are all
22 undiscounted.

23 MS. DEVINE: All right. Let's go off
24 the record for a minute, Robert.

1 VIDEOGRAPHER: The time is 11:54 a.m.,
2 and we're off the record.

3 (Recess taken.)

4 VIDEOGRAPHER: The time is 1:02 p.m.,
5 and we're on the record.

6 BY MS. DEVINE:

7 Q. Good afternoon, Dr. Crakes.

8 A. Good afternoon.

9 Q. I wanted to follow up on a little bit of your
10 testimony this morning, beginning with the age at
11 which you estimate each of the bellwether plaintiffs
12 will stop working, which is age 67, correct?

13 A. The age to which they will have an earning capacity.
14 Yes.

15 Q. Correct. And you used that for each of the
16 bellwether plaintiffs across the board, correct?

17 A. Yes.

18 Q. Okay. And can you explain for us again, and I
19 apologize if you did already, why you used age 67 for
20 each of these four bellwether plaintiffs and where
21 that value comes from.

22 A. Well, I indicated that I have looked at tables for
23 work life expectancy, tables for years to final
24 separation from the labor force. In addition to

1 that, the current law and the age of attainment of
2 standard social security benefit is 67, maximum
3 benefit of 70. I felt based on all of those inputs,
4 I would calculate the economic loss of earning
5 capacity to age 67.

6 Q. Okay. And when you do work in the smaller percentage
7 of cases that you do for defendants, do you always
8 use age 67 as the date at which the plaintiffs will
9 cease having an earning capacity?

10 A. I'm sorry. When I do work for defendants?

11 Q. Yes.

12 A. My methodologies are comparable across plaintiffs'
13 and defendants' cases. I will say that in recent
14 years, I have been adjusting up from age 65 to age
15 67, because the tables are showing that people are
16 working longer and the age of the standard benefit
17 for social security has increased to age 67. So in
18 some prior cases have I used 65? Yes. Am I
19 adjusting that upward in recent, the last year and a
20 half or so to 67? Yes, I have.

21 Q. Okay. And when you say to age 67, how do you factor
22 in breaks from the workforce that any of these
23 bellwether plaintiffs may take, whether it be for a
24 week or a month? How does that factor into your

1 analysis.

2 A. Well, when we're talking about any type of separation
3 from the labor force, where one decides for a period
4 of time, for example, not to work, to care for a
5 family member of some sort, if one makes that choice
6 as a personal choice, it doesn't mean they still
7 don't have an earning capacity.

8 Q. But they wouldn't -- go ahead. Sorry.

9 (Reporter clarification.)

10 THE WITNESS: Some situations where
11 there is an involuntary separation from
12 the labor force, the forms of compensation
13 that are available to people during those
14 periods of time are not something that I
15 include as a fringe benefit.

16 BY MS. DEVINE:

17 Q. Okay. Have you -- you indicated you looked at some
18 work life expectancy tables; is that correct?

19 A. Yes.

20 Q. Were those provided or cited at all in your report?

21 A. No, they were not. If you would like copies of those
22 tables, I can provide them to Attorney Stern, with
23 his approval.

24 MS. DEVINE: Okay. I'm going to

1 mark -- Trisha, could you tell us what
2 exhibit we're at?

3 THE REPORTER: 23.

4 MS. DEVINE: Okay.

5 THE WITNESS: I'm sorry to say, can I
6 have a break for just three minutes?

7 MS. DEVINE: Absolutely. Let's go
8 off the record.

9 THE WITNESS: Thank you.

10 VIDEOGRAPHER: The time is 1:06 p.m.,
11 and we're off the record.

12 (Recess taken.)

13 VIDEOGRAPHER: The time is 1:11 p.m.,
14 and we're on the record.

15 THE WITNESS: I apologize, by the
16 way, my -- for the intermission.

17 MR. STERN: Not a problem.

18 BY MS. DEVINE:

19 Q. Sorry about that. I had to step away from the
20 computer for a second.

21 A. You missed my apology.

22 MS. DEVINE: Okay. All right. We
23 can go back on, Robert, if we aren't
24 already.

1 VIDEOGRAPHER: Sorry. I just put us
2 on the record a moment ago.

3 MS. DEVINE: Okay. Thank you.

4 BY MS. DEVINE:

5 Q. Dr. Crakes, before we broke, I had asked you if you
6 reviewed work life expectancy tables in connection
7 with your report, and you indicated that you did,
8 correct?

9 A. Oh, yes, I did. These were the tables that I
10 reviewed.

11 Q. The ones that I have up on the screen here?

12 A. Yes.

13 Q. Okay. And this will be Exhibit 23.

14 (Exhibit No. 23 marked.)

15 BY MS. DEVINE:

16 Q. These, Dr. Crakes, are not cited in your report,
17 correct?

18 A. That's correct.

19 Q. Okay. And they were not provided as part of your
20 file, correct?

21 A. That's correct.

22 Q. Okay. And can you tell me in Exhibit 23 here what
23 this article and these tables are?

24 A. Well, they're the most current tables for work life

1 expectancy. They were published in the Journal of
2 Forensic Economics. And there's an article and then
3 there are tables at the end of the article that
4 distinguish between men and women by age and level of
5 educational attainment, the years of remaining
6 activity in the labor force over one's lifetime.

7 Q. And what type of factors does work life expectancy,
8 maybe you just said that, take into account when
9 computing lost earnings? Yep. Go ahead.

10 A. The tables differentiate by gender, age, and level of
11 education.

12 Q. Okay. And can you explain to what degree your review
13 of these tables factored into your assumption that
14 each of these four bellwether plaintiffs would work
15 until age 67?

16 A. I want to repeat again, I'm assuming they would have
17 had an earning capacity to age 67, not that they
18 necessarily would have worked until age 67. Work
19 life expectancy tables show the number of years that
20 one will remain in the labor force over one's
21 lifetime. They are not additive to age, which is a
22 mistake that sometimes will be made. So that when
23 you see a work life expectancy value for someone of a
24 particular age and you then add it to their age,

1 that's really not what they're reflecting. They're
2 reflecting over the remainder of one's lifetime, the
3 number of years of activity in the labor force.

4 So that some people may exit the labor
5 force for a period of time and reenter. That would
6 not necessarily mean that we would take that period
7 of time and suggest that they didn't have an earning
8 capacity. So that we can't really add the work life
9 expectancy values to a person's age.

10 But in addition to that, if I had relied
11 just on these tables, comparing the work life
12 expectancy of a male or female with less than a high
13 school -- or a 9th to 12th grade education, would
14 mean there would be more years when there would be no
15 impaired earnings. And for some of these
16 alternatives, the loss might actually be greater.

17 Q. You would agree with me that using these work life
18 expectancy tables is common in your profession,
19 correct?

20 A. Some use them. Yes. And some misinterpret them as
21 well.

22 Q. Okay. And am I correct to take away from your
23 testimony that these tables are just one factor that
24 you use to determine earning capacity, age of earning

1 capacity?

2 A. Yes. The years to final separation article, which
3 appears in the same journal, by the way, and the same
4 edition of the journal in this particular volume, the
5 years to final separation from the labor force is the
6 number of years that someone will go and leave the
7 labor force and never return. Those numbers are
8 additive to age, but not to work life expectancy
9 numbers.

10 But nonetheless, just as an illustration,
11 the work life expectancy of a male, like E[PPI
12 SPPI], with a bachelor's degree would be about 40
13 years from age 23. The years from age 18 to -- with
14 the 9th to 12th grade education would be about 29.7
15 years. So that just as an illustration, you would
16 have over ten years of complete and total earnings
17 loss, if one had made the assumption of using those
18 tables, rather than what I've done, which is
19 calculate the impaired earnings to age 67 as well.

20 Q. We spoke earlier about departures from the workforce,
21 whether it's voluntary or involuntary. And am I
22 correct to assume from your testimony that that
23 really has no effect on your calculations because
24 you're calculating the capacity, not whether or not

1 someone actually did or did not leave the workforce?

2 A. Well, I'm not calculating actual earnings. We're
3 calculating earning capacity.

4 Q. Correct.

5 A. The capacity of an individual to experience earnings.
6 With that qualification, yes.

7 Q. Okay. So if someone goes out on a leave or maternity
8 or paternity or anything like that, that's not really
9 factored into the capacity calculations that you're
10 making, correct?

11 A. Well, if someone takes time out of the labor force
12 for child raising, it doesn't mean they didn't have
13 an earning capacity. They just chose not to exercise
14 it.

15 Q. Okay. But for purposes of your calculations, you're
16 not factoring that in one way or another, correct?

17 A. Correct. For earning capacity, that's correct.

18 Q. Just jumping around a little bit here. I know we
19 spoke a little bit earlier that you're not offering
20 any vocational opinions in this case, correct?

21 A. As I think we've indicated on numerous times. Yes.

22 Q. Okay. And you did not speak to any of the four
23 bellwether child plaintiffs, correct?

24 A. No.

1 Q. Okay. And you didn't speak to their parents either,
2 correct?

3 A. I should say not to my knowledge, no. I have not
4 spoken to them, to my knowledge.

5 Q. Okay. And were you provided with a copy of their
6 deposition transcripts?

7 A. No.

8 Q. Okay. Were you told by anyone that you were not able
9 to speak to the plaintiffs in this case?

10 A. No.

11 Q. Okay. And did you speak to any, other than the
12 parents of the four bellwether plaintiffs, any family
13 members, medical providers, or educational providers?

14 A. Not to my knowledge.

15 Q. Okay. And your calculations then, those are based on
16 Dr. Krishnan's report in conjunction with,
17 essentially, nationwide profiles of people with
18 similar age, education, or occupation, correct?

19 MR. STERN: Objection. Asked and
20 answered.

21 THE WITNESS: Yes.

22 BY MS. DEVINE:

23 Q. Okay. Other than Dr. Krishnan's report, there are no
24 individualized factors for any of these four

1 bellwether plaintiffs that you took into account,
2 correct?

3 A. Well, to clarify, certainly age and gender. But
4 other than that, other than what Dr. Krishnan
5 indicated, no.

6 Q. Okay. And we went through Dr. Krishnan's reports for
7 each of the four bellwether plaintiffs, and you
8 directed me to the recommendations section No. 2 as
9 the primary source for your calculations; is that
10 correct?

11 A. Yes.

12 Q. Other than those one to two sentences in
13 Dr. Krishnan's recommendations section, is there any
14 other information in that report which you relied
15 upon in reaching your conclusions or calculations?

16 A. Well, I don't know how many sentences there were in
17 each recommendation. And I would imagine to some
18 extent, what is in the report is the foundation for
19 those recommendations. But other than that, no.

20 Q. Okay. But in relaying your opinions here today, are
21 there any other sections of the report that you rely
22 upon in reaching your calculations?

23 A. Only to the extent that they went into determining
24 those recommendations.

1 Q. Okay. In Dr. Krishnan's report, in the sections you
2 were able to point me to, with respect to her
3 statements on the type of educational attainment each
4 bellwether plaintiff may or may not reach, what data
5 did Dr. Krishnan, herself, rely upon?

6 A. I don't know.

7 Q. Okay. And I think I asked you this, if you were
8 provided Dr. Krishnan's deposition transcript. And
9 you said you were not, correct?

10 A. That's correct.

11 Q. Are you aware that Dr. Krishnan gave testimony that
12 her conclusions on educational attainment were rough
13 approximations, not based on any data or statistics?

14 A. I don't know.

15 Q. Okay. And if she was not able to give an opinion on
16 educational attainment on each of those four
17 bellwether plaintiffs, that's not something you can
18 do for us, correct?

19 A. I think we've established that. Yes.

20 Q. Okay. We spoke a little bit about your familiarity
21 with vocational experts and vocational reports, and I
22 just want to flesh that out a little bit for the
23 record.

24 You would agree with me that customarily,

1 based on your review of vocational reports in the
2 past, those reports tend to be pretty individual
3 specific in terms of each of the plaintiffs, correct?

4 MR. STERN: Object to form.

5 THE WITNESS: I'm not sure what you
6 mean by individual specific.

7 BY MS. DEVINE:

8 Q. Sure. So it's not uncommon for vocational reports to
9 include information about a plaintiff's current
10 academic level of achievement?

11 A. Well, if we're talking about someone who was in the
12 workforce, those would be -- that would be part of
13 the biographical data that would be provided. That's
14 difficult to do with a child.

15 Q. What about a child who has an academic record, albeit
16 limited?

17 A. I don't know. That's not my -- as I indicated,
18 that's not my area of expertise.

19 Q. Okay. Sometimes vocational reports will include
20 information about individual medical history,
21 correct?

22 A. Some may, some may not.

23 Q. Some may include information about the geographic
24 area in which that plaintiff resides, correct?

1 A. Again, some may, some may not.

2 Q. Okay. And some vocational experts, as well, will
3 conduct clinical interviews with plaintiffs. You've
4 seen that in reports before, correct?

5 A. I don't know that I recall that. I may have. I'm
6 not recalling it as I sit here.

7 Q. Okay. And those clinical interviews and information
8 gathering would include or could include information
9 about the parents' educational level and their
10 occupations, correct?

11 A. That's possible.

12 Q. Okay. It could include information on a child's
13 report cards or test scores, correct?

14 A. It's possible. Again, that's not my area of
15 expertise.

16 Q. Understood. I'm just fleshing this out for the
17 record. I understand, Dr. Crakes.

18 It could include -- vocational reports
19 could include things such as whether or not a child
20 has earned any certificates, is on the honor roll,
21 things like that, correct?

22 MR. STERN: Objection to form and
23 foundation. Dr. Crakes has answered
24 repeatedly that this is not his expertise,

1 and you continue to ask him questions
2 about a topic that he claims he's not an
3 expert on.

4 BY MS. DEVINE:

5 Q. All right. I'll ask it this way, Dr. Crakes. You
6 didn't consider information about how each of these
7 bellwether children were doing in school, if they
8 received any certificates, were on the honor roll,
9 correct?

10 MR. STERN: Objection. Asked and
11 answered.

12 THE WITNESS: No.

13 BY MS. DEVINE:

14 Q. Are you familiar with the PEEDS-RAPEL methodology?

15 A. No.

16 Q. Okay. Do you know what that is?

17 A. No.

18 Q. Okay. Would you agree with me, Dr. Crakes, that a
19 parental educational level is an important predictor
20 of the child's educational level and behavioral
21 outcomes?

22 MR. STERN: Objection to form and
23 foundation.

24 THE WITNESS: I'm not someone who

1 makes those types of assessments.

2 BY MS. DEVINE:

3 Q. Okay. And you didn't consider in your assumptions or
4 calculations what each of these bellwether parents
5 did for work or what their educational levels were,
6 correct?

7 A. I did not make --

8 MR. STERN: Object to form. Object
9 to form, foundation. Asked and answered.

10 THE REPORTER: I'm sorry, I didn't
11 hear an answer.

12 MR. STERN: He said no, I did not,
13 was his answer.

14 THE REPORTER: Thank you.

15 BY MS. DEVINE:

16 Q. Do you know if Dr. Krishnan looked at or considered
17 in reaching her conclusions each of these four
18 bellwether parents' educational attainment or
19 occupation?

20 A. I don't know.

21 Q. Do you know or did you consider in reaching your
22 opinions and your calculations any statistics about
23 the number of individuals in Flint who receive
24 college degrees or master's degree, either before or

1 after the Flint water crisis?

2 A. No.

3 Q. Okay. Do you know if Dr. Krishnan relied on any data
4 like that?

5 A. I don't know.

6 Q. Okay. Did you consider or review as part of your
7 opinions or calculations in this case the type of
8 degree programs that were -- are available in Flint
9 for future children?

10 A. No.

11 Q. Did you review or consider what percentage of people
12 growing up in Flint will ultimately live or work in
13 Flint or end up leaving the area?

14 A. No.

15 Q. We spoke earlier, Dr. Crakes, about Dr. Krishnan's
16 reference to unskilled labor in her report. Do you
17 recall that?

18 A. Something to that effect. Yes.

19 Q. Okay. I'm going to pull up one of her reports just
20 so we can have the language here. So I'm showing you
21 Exhibit 12. This is page 7 of the report. Can you
22 see that?

23 A. Yes, I'm trying to get it -- the copy in my file.

24 Q. Oh, okay. This is TPPI report.

1 A. Yes, I have it.

2 Q. Okay. And if we look at the bottom of recommendation
3 No. 2 --

4 A. Yes.

5 Q. -- there's some language here about may prevent
6 completion of college or graduate training. We
7 talked about that. And may prevent her from success
8 in a skilled vocation, that is, reducing her to
9 simple, unskilled work below her potential if her
10 learning and attention issues were not a concern.

11 Do you see that?

12 A. Yes, I do.

13 Q. Okay. How did that -- separate and aside from any
14 statements Dr. Krishnan has made about completion of
15 college or high school, that last three lines, how
16 did that factor into your assumptions or calculations
17 in this case?

18 A. Well, the assumptions that I made in conjunction with
19 Attorney Stern did not -- were not based on that
20 statement.

21 Q. Okay. So the fact that Dr. Krishnan references
22 simple, unskilled work, that didn't go into the
23 assumptions that you made at all?

24 A. That's correct.

1 Q. Okay. Do you know what she's referencing there when
2 she says simple, unskilled work, what types of jobs
3 that could be?

4 A. No, I don't.

5 MR. STERN: Object to form and
6 foundation.

7 BY MS. DEVINE:

8 Q. Do you know what type of income potential there is
9 for someone who is employed in simple, unskilled
10 work?

11 A. All I would know is that typically it would be less
12 than skilled work. Otherwise, I don't know.

13 Q. Do you know the availability of simple unskilled jobs
14 in the United States?

15 MR. STERN: Object to form and
16 foundation.

17 THE WITNESS: No, I don't.

18 BY MS. DEVINE:

19 Q. Do you know any data or statistics that Dr. Krishnan
20 relied upon in making that statement in her report?

21 MR. STERN: Object to form and
22 foundation.

23 THE WITNESS: As I think I've
24 indicated a number of times, I don't know

1 how Dr. Krishnan performed her analysis.

2 BY MS. DEVINE:

3 Q. Okay. Let me pull this off the screen for a second.

4 Dr. Crakes, you're not qualified, nor are you stating
5 today whether or not any preexisting conditions
6 played a role in any of these four bellwether
7 plaintiffs' capacity to earn, correct?

8 MR. STERN: Object to form and
9 foundation.

10 THE WITNESS: That's correct.

11 BY MS. DEVINE:

12 Q. And you're not qualified or offering any opinions
13 today about whether or not any alternate lead
14 exposure, that being not from the Flint water crisis,
15 played any role or plays any role in any of these
16 four bellwether plaintiffs' ability or capacity to
17 earn, correct?

18 MR. STERN: Object to form.

19 THE WITNESS: That's correct, nor
20 would I be qualified to do so.

21 BY MS. DEVINE:

22 Q. Okay. With respect to these four bellwether
23 plaintiffs, did you review or consider, in reaching
24 your opinions or calculations, what the lead levels

1 were in each of these four bellwether plaintiffs'
2 homes or schools or residences?

3 MR. STERN: Object to form. Compound
4 question. And object to foundation.

5 THE WITNESS: I did not investigate
6 that, nor if I did, I wouldn't know how to
7 proceed with it.

8 BY MS. DEVINE:

9 Q. Okay. And you --

10 A. That's not something I'm qualified to do.

11 Q. Okay. And you didn't investigate what their actual
12 lead levels were, correct?

13 MR. STERN: Object to form,
14 foundation, asked and answered.

15 THE WITNESS: That's correct.

16 BY MS. DEVINE:

17 Q. And as part of your assumptions and calculations, you
18 didn't compare lead levels of these four bellwether
19 plaintiffs to lead levels nationally of children,
20 correct?

21 MR. STERN: Same objection.

22 THE WITNESS: As I've indicated, I
23 have no ability to evaluate blood levels.

24

1 BY MS. DEVINE:

2 Q. You indicated in your report, one of the assumptions
3 or the datasets given to you was that the date of
4 injury was, I think, April 25th, 2014; is that
5 correct?

6 MR. STERN: I think his report says
7 April 24th, 2015.

8 THE WITNESS: April 24th, 2014.

9 BY MS. DEVINE:

10 Q. Okay. What does that date represent?

11 A. It represents what I was told would be the date of
12 the first exposure of -- that was being used for
13 these cases. And that's what I was told to use as,
14 in essence, a date of incident.

15 Q. Okay. Were you given any information on the date on
16 which the exposure ended?

17 A. No.

18 Q. Okay. And as part of your opinions and calculations
19 in this case, are you apportioning any damages to any
20 of the various defendants that may or may not be
21 named in this case? Sorry. I didn't hear that.

22 A. I said no.

23 Q. Okay. And --

24 A. I don't think that's a surprise, but that's okay.

1 Q. Okay. I have to ask some of these questions,
2 Dr. Crakes.

3 A. Okay.

4 Q. Do you know anything about my client, Veolia North
5 America?

6 A. No.

7 Q. Okay. Do you believe or do you have any information
8 on when or -- after April 2014, whether or not the
9 lead exposure ended at any point in time in Flint?

10 A. I don't know.

11 Q. Okay. And you don't know if any of these four
12 bellwether plaintiffs continued to be exposed to
13 lead, either in the water or from other environmental
14 sources, correct?

15 A. That's correct.

16 Q. What role, Dr. Crakes, does mitigation play in
17 calculating lost earning potential?

18 A. I'm not sure what you mean by mitigation.

19 Q. Okay. So are you assuming for each of these four
20 bellwether plaintiffs that the damages that they
21 sustained are permanent?

22 A. Well, the calculation is based upon the difference in
23 earning capacity between different levels of
24 educational attainment over the balance of their work

1 life. So that would be something that would occur
2 over their lifetime.

3 Q. Okay. So has -- do your calculations or opinions
4 consider the potential that one or all four of these
5 bellwether plaintiffs' condition improves over the
6 next few years and they are able to reach their
7 unimpaired educational attainment?

8 A. No. And, again, I'm not qualified to make that
9 evaluation.

10 Q. Okay. And you don't know whether or not Dr. Krishnan
11 testified that one or all four of these bellwether
12 plaintiffs' cognitive impairments could be improved,
13 mitigated, or resolved, correct?

14 A. I don't know.

15 Q. Okay. And if that's true, that would have an effect
16 on your calculations, that being what level of
17 education they may receive and their income
18 potential, correct?

19 MR. STERN: Object to form.

20 Foundation.

21 THE WITNESS: If what is -- if what
22 is true? I'm sorry.

23 BY MS. DEVINE:

24 Q. So if the cognitive impairments cited in

1 Dr. Krishnan's report are resolved and they're able
2 to -- the bellwether plaintiffs are able to reach
3 their unimpaired educational attainment, there would
4 not be any loss of earning capacity, correct?

5 MR. STERN: Object to form and
6 foundation.

7 THE WITNESS: Well, it would -- it
8 would partially -- if that were to occur,
9 it would depend on when it would happen.

10 BY MS. DEVINE:

11 Q. Okay. But it would certainly have an effect on your
12 calculations, correct?

13 A. Depending upon when it would occur, that
14 hypothetical.

15 Q. And you didn't provide for any calculations for that
16 instance, that hypothetical, correct?

17 A. That's correct.

18 Q. Dr. Crakes, the opinions that are expressed in your
19 four reports that we marked as Exhibits 8, 9, 10, and
20 11 for Ms. T PPI, Ms. W PPI, Mr. S PPI, and
21 Ms. V PPI, do those constitute your final
22 opinions in this case?

23 A. Well, I don't have any -- as I indicated earlier, I
24 don't have any plans to make any additional

1 calculations. But if I'm requested to do so, I will.

2 Q. Okay. And are there any other documents or
3 categories of documents you believe would have been
4 helpful in your analysis that you didn't have the
5 opportunity to see?

6 A. No.

7 Q. Okay. Have you reached any other opinions with
8 respect to these four bellwether plaintiffs that
9 we've not discussed today?

10 A. No.

11 Q. Other than the work life expectancy tables, which you
12 indicated you would have Attorney Stern -- that you
13 could provide to Attorney Stern -- but I think we
14 marked those; is that correct? Those are the ones
15 that you relied upon in Exhibit 23?

16 A. Yes.

17 Q. Okay. Other than that and the materials we marked
18 today as part of your file, are there any other
19 sources of data that you have relied upon in reaching
20 your opinions in this case?

21 A. Well, I think I did indicate that in that same issue
22 of the Journal of Forensic Economics, there was
23 another article about years to final separation from
24 the labor force by the same authors.

1 Q. Okay. Anything else you can think of, as you sit
2 here today?

3 A. No.

4 Q. Okay. Give me just one moment, and I think I will
5 pass the witness. I think I covered this, but I'm
6 just going to ask the question.

7 You were not provided with any
8 neuropsychological testing from any of these four
9 bellwether plaintiffs from before the Flint water
10 crisis, correct?

11 A. That's correct.

12 Q. Okay. Okay. I have no further questions at this
13 time. Thank you very much, Dr. Crakes. I appreciate
14 it.

15 A. Thank you.

16 MR. GAMBLE: Corey, this is Travis,
17 Travis Gamble on behalf of LAN. We don't
18 have any questions for Dr. Crakes at this
19 time.

20 MR. STERN: Okay.

21 MR. BERG: Nor do I, Corey. This is
22 Rick.

23 MR. STERN: Okay.

24 MS. DEVINE: Corey, one thing.

1 Sorry. I would just like the opportunity,
2 because we were provided that information
3 today, the spreadsheets and the notes -- I
4 don't think it's going to change anything,
5 but we haven't had the opportunity to
6 really review that fully. So if there is
7 anything that comes out of that that I did
8 not ask about today, we may be seeking to
9 ask Dr. Crakes about that. Again, I don't
10 think that's going to happen. But we did
11 ask for that material in advance, we
12 weren't given it, and I've tried to do my
13 best with it today. But I want to reserve
14 that right.

15 MR. STERN: I understand.

16 MS. DEVINE: Thank you very much.

17 THE WITNESS: Thank you.

18 VIDEOGRAPHER: With that, the time is
19 1:40 p.m. This deposition has concluded,
20 and we're off the record.

21 (Deposition concluded at 1:40 p.m.)

22 * * *

23


24

CERTIFICATE OF NOTARY PUBLIC

STATE OF MICHIGAN)

COUNTY OF LENAWEE)

I, Trisha Cameron, Certified Shorthand Reporter
and Notary Public in and for the State of Michigan, do
hereby certify that the witness whose attached
deposition was taken before me in the above cause was
first duly sworn or affirmed to testify to the truth,
the whole truth, and nothing but the truth; that the
testimony contained herein was by me reduced to writing
in the presence of the witness by means of Stenography;
afterwards transcribed by means of computer-aided
transcription; and that the deposition is a true and
complete transcript of the testimony given by the
witness to the best of my ability. I further certify I
am not connected by blood or marriage with any of the
parties, their attorneys or agents; that I am not an
employee of either of them; and that I am not
interested directly, indirectly, or financially in the
matter of controversy.

_____

Trisha Cameron, RDR, RMR, CRR, RPR, CSR

Notary Public, Lenawee County, Michigan

My Commission Expires 5-24-24